



HOLISM

and

COMPLEMENTARY
MEDICINE

Origins and Principles

VINCENT DI STEFANO

Vincent Di Stefano is a practitioner in osteopathy and Western herbal medicine, with a clinical practice in Melbourne, Australia. He has qualifications in acupuncture and naturopathy as well as a Masters in Health Sciences from Victoria University. He has lectured extensively in Western herbal medicine, philosophical concepts of healing, and qualitative research methods in private colleges and at undergraduate and postgraduate level in the Health Sciences department at Victoria University. He regularly contributes to journals, conferences and professional associations, and was founding editor of the first peer-reviewed multi-modality complementary medicine journal in Australia, *Journal of the Australian Natural Therapists' Association*.

HOLISM
and
COMPLEMENTARY
MEDICINE
Origins and Principles

VINCENT DI STEFANO


ALLEN & UNWIN

First published in 2006

Copyright © Vincent Di Stefano 2006

All rights reserved. No part of this book may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording or by any information storage and retrieval system, without prior permission in writing from the publisher. The *Australian Copyright Act 1968* (the Act) allows a maximum of one chapter or 10 per cent of this book, whichever is the greater, to be photocopied by any educational institution for its educational purposes provided that the educational institution (or body that administers it) has given a remuneration notice to Copyright Agency Limited (CAL) under the Act.

Allen & Unwin
83 Alexander Street
Crows Nest NSW 2065
Australia
Phone: (61 2) 8425 0100
Fax: (61 2) 9906 2218
Email: info@allenandunwin.com
Web: www.allenandunwin.com

National Library of Australia
Cataloguing-in-Publication entry:

Di Stefano, Vincent.
Holism and complementary medicine : origins and principles.

Bibliography.
Includes index.
ISBN 1 74114 846 4.

1. Alternative medicine. 2. Alternative medicine - History.
I. Title.

615.5

Typeset in Centaur MT by Midland Typesetters, Australia
Printed by South Wind Production, Singapore

10 9 8 7 6 5 4 3 2 1



The caduceus was the magic staff of the Greek god Hermes (Roman Mercury), messenger of the gods. It has been used over the past two centuries as a symbol of healing. This modified image, designed by Linda Robertson, incorporates a plant in place of the second serpent which is traditionally used.

Foreword

Over the last three decades, complementary medicine has been embraced in Western countries across the globe. It is estimated that about 60 per cent of Australians are using complementary medicine, and spend about \$A2.3 billion on complementary medicines and the various therapies. In the United Kingdom, it is estimated that about 45 per cent of Britons use complementary medicine, representing some 15 million consultations each year. And in the United States, it has been estimated that \$US34 billion is spent annually on complementary medicine.

The rise of complementary medicine in highly developed countries is nothing less than phenomenal. Unlike biomedical health services and pharmaceutical medicines, frequently neither complementary medicine consultations nor remedies receive government subsidy. In spite of this inequity, consumers have been willing to pay for complementary medicines and services out of their own pockets.

Regarded as quacks only a decade ago, complementary medicine practitioners have steadily gained a reputation as primary contact practitioners. The acceptance of complementary medicine in the community is such that complementary medicine courses are now conducted at university level. In spite of this growth, however, scholarly writings on complementary medicine are still limited.

Holism and Complementary Medicine serves to address this deficiency. The author is strategically placed to offer deep insight into complementary medicine practice. He has been involved in complementary medicine education in such areas as naturopathy and herbal medicine since the early 1980s. More recently, he has participated in the design and teaching of undergraduate and graduate programs in Western herbal medicine, philosophical concepts of healing, and qualitative research methods. The perspectives presented in his book have developed from in-depth interviews with a number of highly experienced practitioners and teachers of complementary medicine. They have also been influenced by three decades of community practice in complementary medicine.

This book is divided into two main parts. The first deals with modern complementary medicine practice in a historical context. The second part examines complementary medicine from a medical philosophical perspective. It is often wisely uttered that to understand the present, one must understand

the past. The author commences his historical inquiry in Egyptian times, and enthrals the reader with an in-depth comparison between ancient Egyptian medicine practices and today's complementary medicine practice. The reader soon learns that the concept of holism that underpins complementary medicine practice is not a recent development. The author presents solid historical arguments to show that the roots of complementary medicine philosophy are linked to ancient times.

The works of Empedocles, Hippocrates, Theophrastus, Galen and Paracelsus are examined in the light of the development of biomedicine. Contrary to general opinion, biomedicine is not a relatively new phenomenon but rather the legacy of a chain of historical events which evolved essentially around philosophy.

The link between biomedicine, philosophy and science is elaborated upon in much depth. Though biomedicine sees itself resting on the foundations of scientific theory and thought, this text shows how philosophy has greatly influenced and directed the evolution of scientific inquiry over the centuries. It is this same philosophy that has also shaped the development of complementary medicine practice.

The author compares and contrasts the practice of biomedicine and complementary medicine. From one perspective the differences are stark, and this is how many see biomedicine and complementary medicine. But from another perspective, there are surprising parallels. The author draws upon narratives with complementary medicine practitioners and teachers to highlight such issues.

Holism and Complementary Medicine is highly recommended for anyone interested in the historical and philosophical development of complementary medicine. It is a scholarly work that has equal application to undergraduate students, postgraduates, academics, practitioners and consumers of complementary medicine.

Raymond Khoury
Editor, Journal of the Australian Traditional
Medicine Society
July 2005

Contents

Foreword		vii
Preface		xi
	Introduction	xv
	The making of a new medicine	
PART I	ORIGINS	
Chapter 1	Antiquity	3
	The early origins of medicine	
Chapter 2	Middle times	19
	The gathering light	
Chapter 3	Modernity and beyond	36
	The temple of power	
PART II	PRINCIPLES	
Chapter 4	Holism and reductionism in medicine	59
	Reconciling the opposites	
Chapter 5	The healing relationship	79
	Reflections on the clinical encounter	
Chapter 6	The therapeutic aims of holistic medicine	96
	Restoring the body, empowering the mind	
Chapter 7	Turning the medicine wheel	114
	Between paradigms	
Chapter 8	Firming the foundations	137
	Ways of knowing	
Chapter 9	Completing the circle	156
	Voices of renewal	
Glossary		174
References		178
Notes		187
Index		199

Preface

A young man once approached Mahatma Gandhi as he walked alongside a river. The young man bowed respectfully and then began to speak: 'There is so much that needs to be done in this world. There is so much poverty, so much suffering. There is damage to be repaired, there are wrongs to be righted, and there are pains to be healed. How is anyone to be of any help at all?' Gandhi drew the young man's attention to the numerous pebbles that covered the banks of the river and said, 'Find the roundest, the smoothest, the best pebble you can and hold it in your hand. Then select a place in the river that flows before you, take careful aim, and cast the stone towards that spot as accurately as you can. When the pebble hits the water, your work is done. The ripples will do the rest.'

Holism and Complementary Medicine may be likened to a small pebble cast into the stream of a tradition that is as old as the human story itself, the tradition of healing. When confronted with the vast ocean of writings that relate to medicine and healing, and the deluge of articles that regularly wash over readers of the numerous journals devoted to medicine throughout the world, one may well ask, what more is there to be said?

The river never stands still. It runs constantly, flowing around obstacles and receiving the streams that carry water through its endless cycles. Although its composition and shape will often change, its origins remain constant. Every river ultimately draws from the distant headwaters that gather the falling rain. So it is with medicine. Although its forms and methods may change from place to place and from time to time, it draws perennially from the will to alleviate human suffering borne of sickness and disease.

Today, the profession of medicine in the Western world is undergoing a subtle shift in its approach to healing. A widespread reassessment is occurring of the ways in which medicine has been influenced by approaches to health and sickness derived from different methods and world views than those developed by scientific medicine over the course of the past century. This situation stems from a growing realisation that the ways of scientific medicine, though more powerful and impressive than anything that has ever been before, hold their own limitations. This realisation has been significantly hastened by the successes of the modalities of complementary medicine whose approaches to healing often differ significantly from those of Western conventional medicine.

Holism and Complementary Medicine explores the foundational principles underlying many of those approaches. It is hoped that this book will be

useful not only to practitioners and students of the healing arts generally, but to all who have an interest in the nature of healing and the principles of physicianship that have guided the mission of medicine throughout history.

This book rests upon the influence and inspiration of those many teachers, colleagues and friends who have, over the past three decades, provided guidance and companionship in the pursuit of the enduring sources of wisdom and healing that have always been part of the story of medicine.

I wish to acknowledge my immense gratitude to a number of friends and colleagues who have generously given of their time and their skill in commenting upon the various chapters of this work. To Peter Ferigno of Victoria University whose wonderfully agile and slippery mind has constantly brought me back to the trees within the forest. To my old friend Paul Hertzog of Monash University who has helped to broaden my understanding of the sincerity and compassion that operates, though often out of sight, within the biomedical project. To my brother in arms, Raymond Khoury of the Australian Traditional Medicine Society, who has provided unswerving support through many projects over the past two decades. His dedication to and perseverance in the causes of herbal and holistic medicine in Australia will be increasingly realised in time to come. To my dharma brother, Paul Orrock of Southern Cross University, whom I have had the great pleasure and privilege of working alongside, and whose clear-minded reflections have helped in the refinement of several chapters. To my former colleague at Victoria University, Bogusha Paks, whose European sensitivities have many times challenged my own assumptions. To Buzz Robertson, who has helped keep me abreast of the times in the ever-changing world of medical literature. To Jenie Stroh of the Southern School of Natural Therapies, who has offered perceptive and constructive reflections on Chapter 5. And to my old friend and sometime mentor, Shuddha Sarma, who early in the piece introduced me to the power and influence of ancient and Eastern systems of medicine and their ways of knowing.

I wish to express my deep thanks to both Annie Gillison and Melanie Guile, who have cast their discerning eyes over the whole manuscript. And also to Rob Campbell whose spirited discussions during our forest walks have helped shape my understanding of the deeper healing towards which we all aspire.

Very special thanks are due to those unnamed respondents who gave so generously of their time and wisdom during the early discussions that brought to light many of the issues raised in Part II of *Holism and Complementary Medicine*. My respondents necessarily remain anonymous for ethical reasons. The italicised quotes used throughout Part II were carefully selected from interview transcripts derived through a qualitative research study undertaken at Victoria University between 1996 and 1998. This study was approved on the understanding that the anonymity of respondents would be respected.

It has been said, 'by teaching I'll be taught'. In confirming the truth of that statement, I remain ever grateful for the energy, the patience and the inspiration of those students who have participated in my various classes during the past twenty-five years of active teaching.

This project may never have come to light were it not for the vision, encouragement and support of the remarkable women of Allen & Unwin. Many thanks to my publisher, Elizabeth Weiss, who has quietly driven the process, to Emma Cant and Emma Sorensen, who tended the refinement of early drafts with patience, to Jeanmarie Morosin, who has orchestrated the production of this book with skill and diligence, and to Jessica Post, who has worked behind the scenes to ensure that the process moved steadily forward.

But my deepest gratitude rests with my loving family, who have weathered my excesses and forgiven my often-extended absences during the making of this text. To my darling Gill, who has ever kept the fires of heart and home burning during this time of exegesis. And to our children Nico, Gina, Luca and Sofia, who have borne my occasional outrages with infinite good grace and humour. My love is ever with you.

VDS

April 2005



Introduction

The making of a new medicine

Much of the effectiveness of medical people, and much of their acceptance in communities, is a result not of their scientific abilities, but of their commitment to caring, their perceived authority and wisdom, their identification as people privy to arcane knowledge, and perhaps above all, of their willingness to accept (however stressful and unpleasant this might be) responsibility for assuaging grief and offering care even when technological resources are exhausted. These are traditional medical skills, and are at the very heart of the healing project.

G. Allen German, 1987¹

Suffering is part of the human story. Every one of us has to deal with the reality of birth, sickness and death. Every culture has given rise to those who take on the work of welcoming new life, of helping those who suffer from sickness and disability to regain their health and, at more subtle levels, of giving meaning to the experience of suffering and the limitations that it may bring.

The healing intention has taken many forms throughout history. It has been voiced in the prayers and invocations of countless generations of priests and shamans. It has been carried by the men and women who sought out the substances present in nature and those produced by human ingenuity that help to ease the pain of sickness and hasten the return of health. It continues to find expression in the skill and precision of those dedicated surgeons who daily exercise their art.

Contemporary scientific medicine, also referred to as biomedicine or Western medicine, represents a unique manifestation of the will to heal. It is practised throughout the world, is supported by numerous governments through the funding of educational programs and the provision of

resources, and is served by immensely powerful technologies. Practitioners of Western medicine have largely severed ties with their own historic origins. Unlike their Eastern colleagues, Western doctors have by and large put aside both the philosophical understandings and the treatment methods of their forebears.

Both the teaching and the practice of medicine today have become highly standardised throughout the developed world. The curricula of medical programs in universities and medical schools are virtually identical. Every medical graduate emerges from their training with an encyclopedic knowledge of the body and its diseases. The apprenticeships served within urban hospital systems ensure that young doctors are intimately familiar with diagnostic technologies, understand the action and uses of pharmaceutical drugs, and are fully conversant with the surgical procedures commonly used in the treatment of trauma and disease. The practice of medicine in the Western world has, as a consequence, become highly uniform. Any given diagnosis will likely result in a similar prescription or procedure regardless of whether one visits a doctor in Sydney, London, New York or Brussels.

But it is now increasingly understood that scientific medicine represents only one approach to healing, albeit a powerful and unique one. Throughout its brief history, it has been practised alongside other ways of maintaining health and dealing with sickness, even though those ways may have been regarded as marginal and largely irrelevant to the dominant system of scientific medicine.

A surprising cultural development has unfolded in recent decades. Independent practitioners of approaches such as naturopathy, homoeopathy, chiropractic and acupuncture throughout the Western world have attracted the patronage of large numbers of people. Practitioners of scientific medicine were often taken by surprise to learn that their own patients were making use of complementary approaches to healing.

Two decades ago, medical anthropologist Arthur Kleinman laid the cards, as he saw them, on the table:

The current interest in holistic medicine and alternative healing systems seems best explained as an historically derived populist movement that is perhaps rightly viewed by the medical establishment as anti-professional. Whether this movement is the last bright flicker of a candle about to go out, or represents a major reorientation of how health care will be delivered in our society is a question that the history of the 1980s and 1990s will answer.²

In the short time since Kleinman offered his view, that flicker has become a strong flame that now illuminates the path of medicine into the new millennium.

Setting the scene

During the late nineteenth century and the early decades of the twentieth century, medical education underwent a profound transformation. The training of doctors was no longer based upon an apprenticeship system, but became firmly established in science-based programs taught in university environments. Both teachers and students thereby gained access to research facilities and teaching hospitals where patients were available in great numbers.³ The support of governments in the West was enlisted in this project, based as it was on the foundations of biological science and guided by a highly organised profession of medicine. Earlier traditions of medicine such as herbalism and hygienism, and more recent arrivals such as homoeopathy, Christian Science and chiropractic progressively lost both favour and institutional support. They continued to be quietly practised, however, by a relatively small group of hardy souls who were prepared to weather the isolation of their non-professional and non-aligned status.

Apart from an occasional attack launched by those more vigorous defenders of medical hegemony who periodically came to power in the larger medical associations, a state of relatively benign and peaceful coexistence was reached for much of the first half of the twentieth century. This peace was occasionally tested by some among the ranks of the dispossessed who spoke out too strongly or stridently against the dominant profession. Those who practised outside the mainstream were referred to as quacks at worst, but more often as fringe, unorthodox or lay practitioners.

Things changed dramatically during the 1960s. The formerly inchoate and elusive network of healers and practitioners that had worked unobtrusively within their respective communities began to be identified as 'alternative' healers and were increasingly sought out by more and more people. The term *holistic* was increasingly used to describe such healing approaches. The term itself was not new, but pointed towards an idea that had been first articulated some four decades earlier, and had been slowly configuring ever since.

Holism

Jan Christian Smuts coined the term *holism* in 1925. He used it to describe a philosophical position that was directed towards an understanding of whole systems, rather than particular events or phenomena.⁴ Within two years, this new term had made its appearance in the *Encyclopaedia Britannica* and was therein described as 'a viewpoint additional and complementary to that of science'.⁵

Smuts himself was an enigmatic and contradictory character. Born in the British Cape Colony (later to become South Africa) in 1870, he studied law at Cambridge and then returned to his birthplace and a life in politics. He served during the Boer War and proved to be a powerful military strategist, attaining the rank of General. He held office as Prime Minister of South Africa on two separate occasions and was influential in the formation of both the League of Nations and, later, the United Nations. Shortly after the publication of his book *Holism and Evolution* in 1925, he was elected president of the South African Association for the Advancement of Science. In 1930, he accepted the role of president of the Royal College of Science in the United Kingdom.

Smuts repeatedly emphasised that the notion of freedom was integral to any understanding of holism.⁶ Yet he held strongly separatist and racist views regarding the rights of blacks in the governance of South Africa, at least during his early years in political office. Smuts also managed to cross swords with Mahatma Gandhi regarding the rights of Indian workers in South Africa.⁷

Although Smuts' early interests revolved around literature, the classics and philosophy, he was drawn strongly to the new vision of reality that began to emerge from the fields of physics and mathematics at the turn of the century. He sought to counter the mechanistic and deterministic view of life that had increasingly dominated the emerging scientific world view by reaffirming the co-centrality of the role of mind and life in creation. For Smuts, the study of matter alone did not provide an adequate understanding of the world. The new physics had opened up a world where matter and energy were interchangeable, and where space and time were no longer separate entities. Through his exploration of 'wholes', Smuts offered a broader and more comprehensive perspective on the nature of reality than that provided by reductionist science.

Smuts' magnum opus, *Holism and Evolution*, came and went largely unnoticed. But the term 'holism' struck a powerful chord that has slowly risen to become a chorus in the intervening decades. Today, holism has come to signify a philosophical position that acknowledges the essential unity of creation. It carries the synergetic understanding that wholes are greater than the sum of their parts.

Holism also recognises that the parts of any given phenomenon may themselves represent whole systems. A molecule of DNA represents a whole system in itself, as does the individual cell that carries the DNA. The organs, made up of numerous individual cells, are each integral systems. And the organism made up of various organ systems is itself a unified whole. Beyond this, the organism itself and the environment within which it is situated are themselves an interconnected unity.

The philosophy of holism can therefore be seen to be complementary to that of reductionism, which holds that phenomena can be understood by an analysis of their individual components. Holism offers a systemic view of reality that acknowledges both autonomy and interdependence, and accepts that matter, life and mind are implicate in and integral to the phenomenal world. It is in this sense that the term holism is used in *Holism and Complementary Medicine*.

Language and labels

Another term that is used consistently throughout this text is *complementary medicine*. Unlike the term *biomedicine*, which keenly identifies the character of contemporary medicine through making explicit its foundational relationship with the biological sciences, the term complementary medicine can be interpreted more as a non-definition, in that it defines itself not by what it is, but by that which it is opposite to, or complements.⁸ For the present purposes, complementary medicine will be used as a generic term to describe a number of well-defined approaches to health care whose educational frameworks, underlying philosophies and styles of practice differ from those of biomedicine. Although there are many modalities of healing that may fall within this definition, the term will be used specifically throughout this text to describe the more formalised disciplines of acupuncture and traditional Chinese medicine, naturopathy, homoeopathy, Western herbal medicine and osteopathy, as these represent the particular modalities upon which this inquiry is based.

The term osteopathy as used in this text is to be understood in its common usage in the Australian and British contexts where, unlike in the United States, it refers to both a philosophy and method of treatment derived from the work of Andrew Taylor Still, who developed and promoted it as a comprehensive system of health care during the latter decades of the 1800s.

What was commonly known as alternative medicine during the 1960s and 1970s has since undergone progressive redefinitions on different continents. Much of the discourse relating to non-mainstream medicine during the 1970s and early 1980s centred on the term *alternative medicine*. In the United Kingdom during the 1980s, however, the term complementary medicine gained increasing currency, possibly for political reasons, as 'alternative' may have been perceived as being excessively polarised and as carrying exclusivist undertones in regard to biomedicine. In North America, a peculiar compromise appears to have been settled upon through the use of the term *complementary and alternative medicine* (CAM). The use of the acronym CAM has resulted in a grouping together of what is in actuality a multitude of

approaches to health care that differ from biomedicine. Such approaches range from indigenous systems of medicine including Native American medicine, traditional Chinese medicine and Ayurveda, to naturalistic systems such as naturopathy and chiropractic, and may also extend to vibrational medicine, massage and yogic medicine.

More recently, there has arisen from within biomedicine a movement that openly acknowledges the usefulness of many such approaches to healing and health care, and generally supports their incorporation into a broadened base of practice. In Australia and the United States, this development has become known as integrative medicine, while in the United Kingdom it is more commonly referred to as integrated medicine.⁹

In a remarkable social transformation that continues to unfold, what were formerly considered to be marginal and largely inconsequential approaches to health care have unexpectedly gained increasing cultural and legislative endorsement. This transformation has coincided with a noticeable broadening of the philosophical basis of biomedicine, and with a growing acceptance at all levels of other approaches to health care than that of biomedicine.

Changing perceptions

The relationship between biomedicine and its non-mainstream competitors has changed significantly in recent decades. During the 1970s, the rise of what was then referred to as alternative medicine was viewed with suspicion and hostility, and was frequently denounced in the editorials of the learned journals of medicine. During the 1980s, earlier criticisms appeared to gradually soften as an attitude of suspended judgement and cautious appraisal began to develop. During the 1990s, a noticeable shift occurred in the previously rigid boundaries as many within biomedicine took an increasing interest in the possible contribution of such approaches to the health of patients generally.¹⁰

The disciplines of naturopathy, chiropractic, osteopathy and traditional Chinese medicine have now been formally legitimised in many Western countries by government registration and licensing, and by entry into government-funded university programs. This reality invokes a number of questions. Why has the cultural authority that was painstakingly won by biomedicine over the twentieth century been noticeably eroded? Are there hidden problems within the practice of scientific medicine that the profession itself is blind to? Why do so many choose to make use of the so-called unproven methods of complementary medicine? And at another level, one may ask whether there are common understandings within complementary medicine that differ significantly from those of biomedicine.

Complementary medicine clearly offers something very different from what is provided by scientific medicine. The nature of that difference, however, remains elusive. Certain elements have been tentatively identified in the literature. They include: a differing style of clinical encounter, characterised by longer consultations and a less formal relationship between healer and patient; perspectives on the nature of health and disease that may be more in accord with patients' own views and understandings; an inclination towards health-based rather than disease-based approaches to treatment; a preference for non-pharmacological and non-technological approaches to health care; and an active encouragement and support for patient autonomy.¹¹

It has also been suggested that the recent interest in and patronage of practitioners of complementary medicine may simply reflect the exercise of free choice made available by the increased visibility of practitioners of complementary medicine, and a more pragmatic approach to health care based upon patients' experience of benefit from such treatments.¹²

Opening the doors

Holism and Complementary Medicine offers both a journey into the past, and a projection towards the future. But it is essentially grounded in the present time, when the profession of medicine is in the midst of a significant re-orientation. This reorientation has been hastened, if not catalysed, by the growing popularity and influence of complementary medicine. This quiet revolution in the way medicine is practised in Western communities is also reflective of an altered world, where many of the certainties of the past have been called into question. The world has changed beyond imagination in recent decades. Many are becoming increasingly aware that the ways of our present civilisation have not necessarily been helpful for the planet or her peoples.

This book does not purport to offer a new or definitive theory regarding the meaning behind the rise of holistic models of healing today. That is a task better left for future commentators who can, with the wisdom of hindsight, interpret more fully the role of complementary medicine in helping broaden the ways in which medicine is both taught and practised in Western communities. What it does offer, however, is an informed exploration of those elements within complementary medicine that have contributed to the movement of large numbers of people in the West towards more holistic approaches to health and healing.

The perspectives presented in *Holism and Complementary Medicine* have been derived from over two decades of personal commitment to the practice

and teaching of different aspects of complementary medicine within the Australian context. More importantly, these perspectives have been deepened and refined through collaborative discussions with colleagues who have also served as educator-practitioners of complementary medicine.¹³ As such, it offers a unique reflection of those signatory attributes of complementary medicine that differ from those of biomedicine. Those interviewed represent the disciplines of homoeopathy, naturopathy, osteopathy, traditional Chinese medicine and Western herbal medicine. Regardless of the modality practised, every respondent interviewed consistently identified the principle of holism as the underlying philosophical basis of his or her own approach. This principle forms the essential fulcrum around which each of the chapters in Part II turns.

In some ways, this work represents a recovery of lost ground, a re-affirmation of those enduring principles upon which the art and science of medicine have always rested. Those principles include the centrality of the relationship between physician and patient, the dimensions of the task to which the physician is called within that relationship, the philosophical bases of individual systems of healing, and the evolving nature of human consciousness and its influence in healing. Each of these elements will be explored in detail in the chapters of Part II. These chapters also offer a detailed overview of the holistic basis of complementary medicine practice, and also deal with those philosophical issues that lie at the heart of any understanding of complementary medicine.

We are, at present, poised at a major turning point in the way that medicine is practised in the Western world. The past century has seen immensely successful developments in new technologies and new methods of treatment. These have made available formerly inconceivable powers of diagnosis and intervention. Yet despite such prodigious achievements, there are some things that remain constant. Among them is the fact that the practice of medicine is essentially founded on the engagement between two human beings, the physician and the patient, and is not ultimately contingent upon technology or technicianship, although these clearly have had a huge impact on the way medicine is practised today.

The various modalities of complementary medicine are largely out of the loop in regard to their relationship with, or their dependence upon, the powerful technologies of medicine. But they have something very important to offer. They offer both differing perspectives and differing philosophies regarding the nature of life and the nature of health to those held by biomedicine.

Medicine has traditionally drawn as much from philosophy as it has from science. Philosophical issues cannot be put aside as mere abstractions or irrelevancies in matters of sickness and health. The work of the physician, in all its forms and guises, courts the very limits of our existence. It is implicate in

the way we are birthed, the ways in which we deal with the suffering borne of sickness and disease, and the ways that we depart this world.

Our philosophies can help us to connect with each other, with the world in which we find ourselves, and with the many worlds that are available to our belief and imagination. Our lives and experiences cannot be laid open and dissected like cadavers. Although many aspects of life may appear to be predictable, manageable and straightforward, we also live within uncertainty, contradiction, complexity and mystery.

Biomedicine is founded upon an historical pragmatism that has enabled the separation of fact from fancy, of the tangible from the tenuous. Acute care in hospital casualty wards requires immediate and skilled interventions, and not a reflective querying regarding the hidden causes or subtle meanings of a traumatic event. The flow of blood must be staunched. Broken tissues must be tended. Vital signs must be monitored. This is good and necessary. But the art of the healer extends beyond the casualty ward. And it is in such domains that less pressing realities such as the meaning and consequence of sickness episodes, a knowledge of the hidden dimensions of life, and a sensitivity to the subtle influences that condition our health become important. And this is why philosophy is inseparable from medicine.

The three chapters of Part I offer a selective historical review of the progression of the mind of medicine over the past five thousand years of recorded history. The story of healing is, of course, inseparable from the story of humanity, and has been integral to our collective experience since time immemorial. But in the brief review that follows, we are necessarily limited to that which has been transmitted through living traditions and written records.

It has been said that one must know the old in order to understand the new. This will most certainly provide a firm foundation from which to reflect upon the meaning of contemporary medicine. A knowledge of that which has gone before may also provide insight into many of the ideas and philosophies that underlie the various approaches that form part of complementary medicine.

It is important to understand that the ideas and approaches presented in this book do not necessarily reflect the way that complementary medicine is practised on the ground by individual practitioners. Every healer remains free, within reason, to interpret his or her craft in whatever way they choose, once suitably credentialed. This has always been the case. There are many practitioners of complementary medicine who operate in a highly reductionistic manner. Patients are treated according to their presenting symptoms without consideration of cause or consequence. Similarly, there are many holistically inclined practitioners of biomedicine who, while making use of everything scientific medicine can offer, remain acutely sensitive to the more

subtle determinants of their patient's health and sickness, and strive to become agents of change in the lives of their patients.

The modernist vision of universal redemption through rationality, scientific thought and technological progress has perhaps been overly optimistic. The growing community support for practitioners of complementary medicine is but one aspect of a widespread cultural response to the problems of modernity. Those problems include a widespread adherence to Cartesian dualism, where matter and mind are seen as separate realms; a masculinism that is reflected in a widespread obsession with control, predictability, and the use of forceful measures to bring about change; the valuation of rationality and intellection over more intuitive and empathic modes of being; and an excessive valuation of materiality over mind and spirit.¹⁴

This cultural development has led, among other things, to a deepening awareness of the complex of influences that condition our health, and a reconsideration of those sources of healing that are perennially available through simpler means than those offered by technological medicine.

Holism and Complementary Medicine offers a view from the inside of the nature of complementary medicine. It is written in the hope that it may stimulate further studies that explore the experiences of educators, practitioners and patients in the various modalities of complementary medicine. In the longer term, such studies may prove to be far more useful than the myriad clinical and laboratory studies that will doubtless keep researchers busy for decades to come.



As many direct quotations from individual respondents inform much of the discussion in Part II, a brief sketch follows of the disciplines taught and practised by those interviewed in order to provide some clarification of their underlying philosophies and treatment approaches. These descriptions are not intended to be exhaustive, but will hopefully be sufficient to provide some insight into the essential character of each approach.

Naturopathy

Naturopathy is a generic term that covers a wide range of modalities including hygienism, nutrition, vitamin and mineral therapy, homoeopathy, herbal medicine, and massage and remedial therapy. Naturopaths therefore represent the general practitioners of natural medicine who are able to utilise a wide range of modalities according to their knowledge and training and the needs of their patients.

Naturopathic philosophy leans strongly towards a vitalist perspective of health and disease. Naturopathic treatment aims to enhance the life force or vitality of the patient through supportive medication and treatment, and through the activation and support of the body's detoxifying capacities. Most practitioners of naturopathy are comfortable with the notion that physical reality is conditioned by an energetic reality that can be utilised for the purposes of healing. The modalities of homoeopathy, acupuncture and vibrational medicine also incorporate such energetic considerations.

Purist metaphors also figure prominently in the naturopathic understanding of health and disease. The hygienist tradition in particular emphasises this aspect through its encouragement of such practices as periodic fasting and the use of elimination diets. Culturally, however, there are very few who are either prepared to brave such ordeals or to keep a watchful eye on those who would undertake such programs. More commonly, the elimination of toxins is aided through the activation of liver-based detoxification mechanisms and through stimulation of the eliminative capacities of the kidneys, skin and lungs. Attention to such lifestyle issues as diet, physical activity, stress and mental and spiritual orientation are integral to this process.

Naturopathic approaches to health care are essentially educative and transformative in their intent. Patients are actively encouraged to become more informed in such matters as the role of diet and lifestyle upon health and sickness. Philosophically, the naturopathic approach is aligned to an holistic appreciation of our essential connection with nature and natural forces, and seeks through its various methods to enhance our self-healing capacities through the use of natural substances and lifestyle regulation.

Homoeopathy

Homoeopathy was developed in the nineteenth century by the German doctor Samuel Hahnemann. Like Andrew Taylor Still, Hahnemann became deeply disillusioned with the medicine of his day. In his work as a translator of medical texts, he chanced upon the ancient principle of '*similis similibus curentur*', or 'like cures like'. Through a series of early observations on the effects of differing doses of Jesuit bark or *Cinchona officinalis*, prepared according to the peculiar style of homoeopathy, on a group of malaria sufferers, Hahnemann developed a therapeutic epistemology that eventually gave rise to over two thousand homoeopathic remedies. Most of those remedies continue to be used in the homoeopathic materia medica today.

Homoeopathy is essentially a vitalistic system of therapeutics that makes use of medicines prepared through the methods of *succussion* or *trituration*.

The system is based on Hahnemann's observation that minute quantities of substances derived from animal, vegetable and mineral sources, when prepared in a particular way, are capable of curing the pattern of symptoms produced when larger quantities of the same substances are administered.

Homoeopathic medicines are prepared by the serial dilution of plant, animal or mineral products. In real terms, this involves the dilution of one part of starting material with either nine or ninety-nine parts of an inert medium, either a water–alcohol mixture, or sugar of milk powder. This produces what are known as either *decimal* or *centesimal* potencies. The process of succussion, or vigorous shaking, is used to *potentise* liquid mixtures, while the process of trituration, or repeated grinding, is used to potentise solids.

Homoeopaths believe that the strength of action of their medicines increases with each successive dilution despite the fact that there is physically less of the actual starting material. Many of the medicines used by homoeopaths have been so diluted as to contain no trace whatsoever of the original drug or substance used. These higher *potencies* are highly valued by specialist homoeopaths who often speak in glowing terms of their efficacy when used sensitively and appropriately.

Such a notion creates obvious difficulties for any system of medicine grounded in materiality and pharmacology. Not surprisingly, many within biomedicine consider homoeopathy to be a heretical system. This is readily understandable as there are no known conceptual models acceptable to biomedicine whereby the supposed action of homoeopathic remedies can be reconciled with the known laws of pharmacodynamics.

Homoeopaths believe that the potentising process itself releases an energetic template from the starting material. This template is said to be capable of interacting with our own vital energies and thereby exerting a restorative influence on the pattern of symptoms that occur in sickness. Traditional homoeopathic theory also describes a complex system of constitutional tendencies or *miasms* that are said to determine proneness to particular conditions. Again, such a notion finds no resonance in the biomedical paradigm, but is more akin to the qualitative or humoral descriptive systems of Greek, Arabic and Indian medicine.

In actual practice, homoeopathic consultations tend to be lengthy, detailed and very wide ranging. They may explore family history, mental and emotional tendencies, dietary and environmental preferences, and bodily sensitivities in addition to the actual presenting symptoms of the patient. The homoeopathic ideal is to select a specific remedy based upon the patient's symptom picture and constitutional type. When successfully matched, such medicines are said to act in a near-magical way, producing rapid and significant improvement in the patient's condition.

The process whereby homoeopaths arrive at an appropriate remedy is the antithesis of reductionism. That process rests on an exploration of the patient's life-world in such detail as to gain a global view of their physical, mental and emotional attributes. The clinical interaction that characterises the homoeopathic approach is, by its very nature, holistic in character.

Western herbal medicine

Western herbal medicine represents a neglected and devalued repository of much of the knowledge developed over many thousands of years of medical experience in Europe, the Mediterranean and the Americas. Several hundred plant drugs are available to contemporary practitioners of Western herbal medicine as their primary *materia medica*. Most of these drugs have a long history of traditional use but remain untested according to the current norms of biomedicine. In recent decades, however, increasing interest has been directed towards the nature and activity of a small number of these plant medicines by the medical and scientific community, with the result that their therapeutic usefulness has been validated through clinical trials and their mode of action determined by phytopharmacological investigations.

The philosophical basis of traditional Western herbal medicine is radically different to that of contemporary pharmaceutically based systems of medicine. Like the indigenous systems of Ayurveda and Chinese herbal medicine, traditional European herbal medicine has, for much of its history, leaned heavily upon humoral systems of diagnosis (see Glossary) and treatment derived from the Graeco-Arabic tradition. Plants were thus described in terms of such qualities as heat, cold, dampness or dryness, and prescribed according to interpretations of the patient's symptoms in similar terms. More recently, medicinal plants began to be described according to their perceived actions on the body. Thus they were classified as emetic, soporific, expectorant, demulcent, vulnerary and so on. It is only since the development of the methods of chemistry in the past few centuries that plants have been understood according to the nature of their active chemical constituents.

The practice of Western herbal medicine today can take a number of forms, ranging from a reductionistic pharmaceutical-based approach to more traditional and holistically inclined approaches. The recent investigations that have validated the clinical effectiveness of such plants as *Echinacea* or *Astragalus* as immune system stimulants, *Hypericum* or St John's wort for the treatment of depression, and *Ginkgo biloba* for the treatment of impaired cerebral circulation have led to their promotion and marketing as therapeutic agents for the treatment of specific conditions.

Most contemporary practitioners of Western herbal medicine, however, tend to take a more systemic approach in their work with patients. A patient who presents primarily for treatment of high blood pressure may be prescribed a combination of plant extracts designed to improve the function of the circulatory, nervous and urinary systems. Another suffering from a skin condition may find the focus of treatment directed towards processes of detoxification and elimination through the digestive and urinary systems.

Although most herbalists are aware of the nature of the active constituents in their more powerful plant medicines, carriers of the tradition continue to prescribe plants more on the basis of their actions as nervines, astringents, tonics or demulcents, for example, than upon their chemistry. The treatment itself therefore tends to be directed more towards a restoration of the function of the whole body rather than providing symptomatic treatment for specific conditions.

Most practitioners of Western herbal medicine identify with a holistic philosophy that emphasises the essential unity of human nature and the natural world itself. Plants, as products of nature, are the quintessential medicines of the earth and partake of the same forces that enliven our own nature.

Osteopathy

Osteopathy is a form of structural and functional medicine that was developed in the mid-nineteenth century by the North American doctor Andrew Taylor Still. His confidence in the medicine of the time collapsed after three of his sons died within a short time of each other from meningitis, despite the ministrations of his most trusted and knowledgeable colleagues. Still abandoned his practice of medicine after the death of his sons and spent the next decade immersed in a deep study of human anatomy. He developed a powerful therapeutic system based upon the restoration of structural integrity, and the normalisation of nerve supply, blood supply and lymphatic flow throughout the body.

Traditional osteopathy as described by its originator is both mechanistic and vitalistic. It is mechanistic in the sense that a deep knowledge of anatomical relations informs successful diagnosis and treatment; and vitalistic in the sense that the body is understood to possess inherent healing capacities that are mediated through the circulatory and nervous systems. This capacity for self-healing may, according to osteopathic understanding, be diminished or disturbed by the presence of structural restrictions or *lesions*, and enhanced or restored through structural correction.

In its evolved practice, osteopathy represents far more than a simple mechanistic therapy useful for the treatment of bad backs and sore necks. The

body itself is perceived as a holographic *integrum*, and dysfunction in any given part may subtly influence activity in other areas. The purpose of osteopathic examination and diagnosis is to enable the osteopath to identify structural problems that may be influencing joint movement, circulation of the blood, or nerve supply. Through corrective adjustment, the body's self-healing capacity is maximised and enabled to do its work without impediment.

Osteopathic medicine as practised in Australia and the United Kingdom is very different from that currently practised in North America. In Australia and the United Kingdom, osteopathic medicine remains ostensibly a form of manual treatment, whereas in North America osteopathic medicine has in some ways become a more simple, and less technologically oriented, version of biomedicine.

Traditional Chinese medicine

Traditional Chinese medicine represents a well-established cultural system that has been utilised and refined in China over hundreds of generations. Traditional Chinese medicine builds upon a vitalistic and qualitative understanding of human nature and of the influences that sustain life and the phenomenal world itself.

Traditional acupuncture is said to influence the activity of a bipolar energy or *ch'i*, which circulates through a series of channels or *meridians* that interpenetrate our physical bodies. Each meridian is said to be related to a particular organ system or physiological activity. The state of the meridians is assessed by a careful observation of physical signs and by the sensitive reading of the quality of the pulse at a number of positions on the radial artery. The task of the practitioner is to assess the quality and attributes of the energy flowing through the meridians. Any imbalance or disharmony detected is to be corrected by the insertion and manipulation of fine stainless steel needles in selected acupuncture points.

Traditional Chinese medicine also makes use of a vast pharmacopoeia of medicinally active plants that have been used for many centuries. Chinese herbal medicine represents a highly evolved system of internal medicine which is based on a similar understanding to that which informs the practice of acupuncture. Health and disease are diagnosed in energetic terms and plants are selected and prescribed accordingly. This system of medicine has powerful resonances with the Graeco–Arabic medicine that dominated European medicine until the time of the Renaissance. The practice of Ayurvedic medicine, one of the indigenous systems of medicine in India, is similarly based on qualitative principles.

Traditional Chinese medicine rests strongly upon Taoist philosophy which is, by its very nature, holistic. Our human nature participates in the activity and cycles of the natural world. When we live in harmony with nature, we become open systems through which regenerative energies constantly flow. Sickness and disease may reflect disturbances in the free movement of those energies through our bodies. The task of the practitioner is to monitor and interpret the quality of energy flow through the meridian systems, and to correct any imbalance through the use of acupuncture or moxibustion, through the prescription of medicinal substances, through the use of such manual therapies as *tui na*, or through the prescription of such practices as *tai chi chuan* or *chi gung*.

Although the traditional practice of acupuncture is based on such principles, it can also be applied in a purely symptomatic manner. In the treatment of back pain, for example, the insertion of acupuncture needles into local points without reference to the quality of the pulses or to a general assessment of the quality of energy flow through the meridians often carries significant therapeutic benefits. Similarly, the use of electro-acupuncture for the purposes of surgical anaesthesia represents an independent development that can be interpreted more in neurophysiological than energetic terms.

Traditional Chinese medicine represents an evolved and internally coherent system of therapeutics that has emerged through several millennia of cultural experience. Its methods are based on a different logic to that which underlies Western notions of rationality. Despite this, its inherent efficacy has been acknowledged many times over, and it forms one of the major modalities of complementary medicine that gains increasing Western acceptance even though many aspects of its *modus operandi* remain uncharted.



PART I

Origins



Chapter 3

Modernity and beyond

The temple of power

Medicine's position today is akin to that of state religions yesterday. It has an officially approved monopoly of the right to define health and illness and to treat illness. Furthermore, as its great prestige reflects, it is highly esteemed in the public mind. Its position is not a long-established one; in fact, it is less than a hundred years old.

Eliot Friedson, 1988¹

Interest-based politics rather than scientific logic per se, is central to the understanding of health care in general and the relationship between orthodox and alternative medicine in particular.

Mike Saks, 2003²

Over the course of the eighteenth and nineteenth centuries, the factual errors of the past regarding the structure of the human body were systematically corrected through the work of university-based anatomists. Earlier notions that disease represented a punishment from God or the intervention of wrathful deities and malignant spirits were put aside as the superstitions of a more ignorant age. And the finely developed Greek interpretation of disease as an imbalance of the elemental forces and potencies that animated our being was replaced by a deepening knowledge of the nature of organic pathology and of bacteriology.

During the nineteenth century, a new generation of epidemiologists began to draw their own conclusions regarding patterns of health and disease in human communities. They soon identified the relationship between poor sanitation and disease in the squalid towns and cities swollen by promises of urban industrialisation. Sanitary engineers became bolder in

their interventions, and the health of nations began to flourish as sewerage systems and piped water supplies became more freely available. With the simultaneous improvement in transport systems, urban communities began to benefit not only from the increasing availability of clean water but also a constant supply of fresh food.

A dramatic decline in infant mortality rates paralleled these developments. Scientific medicine staked its own claim as key player in this process. Developments in epidemiology, anaesthesiology, surgery and pharmacology were seen as early portents of a new and enlightened age driven by scientific knowledge and technological mastery. The earlier ways of medicine were steadily left behind as newer scientific approaches began to make their presence felt.

Many different approaches to healing were available in Europe and the New World during the eighteenth and nineteenth centuries. In the early 1800s, patients were often bled to the point of unconsciousness, and heavily dosed with mercurial purges and crude salts of metals in the 'heroic' medicine practised by university trained physicians.³ Gentler approaches such as bone setting, herbal medicine and spiritual healing were offered by others.

A new medicine

European medicine had been irrevocably influenced by the movement of medical education into the universities during the medieval period. The new knowledge of the post-Renaissance period ignited a fury of activity in the sciences over the next three centuries. By the mid-1800s, scientific studies in anatomy, physiology, pathology and medicinal chemistry were firmly established, particularly in French and German universities. It was from these centres that the germ theory of disease and consequently much of biomedicine emerged.⁴

The character of hospitals had begun to change during the early 1800s. Rather than serving as refuges for the poor, aged and homeless, hospitals increasingly became places for medical learning and research. By mid-century, university-based medical education in Europe was firmly established in hospital environments.⁵

The situation in the frontier countries of the new world was somewhat different. The colonisation of North America began in the early 1600s. Australia received its own new settlers in the late 1700s. Like every cultural group, the native peoples of North America and Australia had each developed their own ways of dealing with sickness over many thousands of years. Although their methods were used by some among the early settlers, the methods of European-trained doctors tended to dominate, particularly in urban communities.

The first American school of medicine was formally chartered in Philadelphia in 1765. The first medical school in Australia was established a century later at Melbourne University in 1862. But until the early 1900s, most of those who ministered to the health needs of their communities in both Australia and North America had learnt their craft through apprenticeship programs or through training courses at private colleges.

Educational standards varied enormously. The curricula of the private colleges were shaped according to the inclinations of their founders and teachers. Diplomas were available to all who were prepared to attend the lectures and pay the prescribed fees. Clinical training was often rudimentary, occurring if at all through small teaching clinics. In some ways, this situation found an historical echo in many of the private colleges that offered training in the modalities of complementary medicine prior to their movement into university environments and their accreditation by government health bodies.

The character of North American medical education was to change dramatically in the first decade of the 1900s. That change was in turn to influence the style of medical education that eventually became established throughout the West.

Taking the reins

A small medical elite began to form in the United States during the middle to late 1800s. It consisted of mostly European-trained doctors, generally from wealthy families. Some members of this group turned their attention to the social and political development of their profession and became active in the newly formed American Medical Association. Within a few short decades after its formation in 1847, the AMA was transformed from a small and dispersed assembly of eclectic practitioners of low social status into a cohesive political body of great power and influence.

Others within the group directed their energies to the reform of medical education. A small number of teaching programs modelled on the European schools began to take shape in the United States. During the early 1870s, Harvard University developed a three-year medical course, and over the following decade similar programs were developed in Pennsylvania, New York and Michigan. A revolutionary new program was commenced at Johns Hopkins University in Baltimore in 1893, where all prospective students were required to have completed a college degree before starting medical studies. Those accepted into the program undertook two years of laboratory-based scientific studies followed by a further two years of hospital internship.

The Johns Hopkins model was, in subsequent decades, to redefine the nature of medical education not only in the United States, but throughout the developed world.

Of mammon and medicine

The American Civil War accelerated the opening up of a newly acquired continent. Steel mills, coal and petroleum refineries generated the materials and machinery that created a rail and road network of unprecedented magnitude within a very short time.

Economic growth was fuelled by virtually unlimited access to an expanding marketplace. Andrew Carnegie and John D. Rockefeller had drawn up the blueprint for American-style wealth creation long before Bill Gates gathered his fortunes from the silicon chip. Carnegie invested in iron manufacturing and the coalmining industries upon which the American rail system was built. Rockefeller held a virtual monopoly in US oil refining through his Standard Oil Company. Between them, they founded new dynasties of unimaginable wealth and power.

A significant part of that wealth catalysed the transformation of American medicine. Both Carnegie and Rockefeller set up a number of philanthropic trusts that made funds available to many social institutions. The profession of medicine in the United States lost no time in making use of the opportunities offered by the patrons of a new technocracy.

The AMA set up its Council on Medical Education in 1904, as early graduates began to emerge from the new schools. One of its first projects called for the systematic inspection and grading of every medical school in North America. The AMA then sought to eliminate what it considered to be inferior schools, and to support those schools that followed the scientific model established at the Johns Hopkins School of Medicine.

In 1907 the Council on Medical Education approached Henry S. Pritchett, President of the Carnegie Foundation for the Advancement of Teaching, and presented him with the findings of their first inspections. Pritchett warmed to the project and immediately contacted his friend Charles Eliot, who was at that time President of Harvard University and a fellow trustee of the Carnegie Foundation. Eliot also happened to be on the board of the Rockefeller Institute of Medical Research. Pritchett also contacted Simon Flexner, director of the Rockefeller Institute, regarding the Council's survey. Flexner suggested that his brother Abraham might be the perfect man for the job.

Under the patronage of the Carnegie Foundation, Abraham Flexner systematically visited each of the 155 medical schools in North America with a view to assessing their potential. Many doors were thrown open as school principals lined up for what they thought would be a slice of the cake. But Flexner had been well courted by both the AMA and the members of the Johns Hopkins faculty before his departure. His eventual findings were pleasing to his powerful advisers, but shocked many of the schools. In the words of medical sociologist Paul Starr:

Flexner's recommendations were straightforward. The first-class schools had to be strengthened on the model of Johns Hopkins, and a few from the middle ranks had to be raised to that high standard; the remainder, the great majority of schools, ought to be extinguished.⁶

Flexner's report helped to change American medicine from what sociologist E.R. Brown described as 'ignominy and frustrated ambition' into a profession of 'prestige, power, and considerable wealth'.⁷ Paul Starr further described the character of this change:

In the nineteenth century, the medical profession was generally weak, divided, insecure in its status and income, unable to control entry into practice or to raise the standards of medical education. In the twentieth century, not only did physicians become a powerful, prestigious, and wealthy profession, but they succeeded in shaping the basic organisation and financial structure of American medicine.⁸

The AMA's first inspections in 1905 had resulted in some changes. But these were a mere shadow of what was to come after the publication of Flexner's 'Bulletin Number Four' in 1910. In the five years between the first AMA review and the publication of Flexner's report, the number of medical schools had dropped from 166 to 133. Some schools had merged and others closed down. The writing was clearly on the wall. Five years later in 1915, that number had dropped to 104 schools. By 1929, only 76 schools of medicine remained in the United States.⁹

There can be no doubt that many of the schools that closed their doors did so because of the inadequacy of their programs. Opportunism does not respect professional or educational boundaries. But the more significant consequences of this development were the loss of eclecticism and diversity within medical education, the adoption on a global scale of a singular educational curriculum, and an increasingly standardised approach to the treatment of patients.

Narrowing the field

During the decisive first decade of the twentieth century, the American Medical Association consolidated its hegemony by undertaking a massive recruitment of members. At the turn of the century, the AMA sported a membership of 8400; by 1910, its numbers had increased to a massive 70000. This platform provided the muscle needed to call the tune in the United States thereafter.

Through the implementation of Flexner's recommendations, medical education increasingly became the privilege of the already wealthy. A short

eight years after Flexner issued his report, Henry Pritchett expressed serious misgivings. He was particularly troubled by the fate of many African-American schools of medicine under the AMA's new policy, and feared the death of all medical education for African Americans if the AMA had its way. In 1918, he publicly protested the 'grave injustice done to the negro schools by the Council's de facto policy of not extending to them the same leniency given to white schools in the South'.¹⁰

Flexner himself was later to express disappointment at the way the AMA had imposed the Johns Hopkins model upon all wishing to enter the portals of medicine. Flexner was himself an educator, and placed a high value on diversity and flexibility in graduate education in both the arts and sciences. Paul Starr was to comment:

Flexner . . . felt that the uniformity of medical education stifled creative work. In the years after his report was published, he became increasingly disenchanted with the rigidity of the educational standards that had become identified with his name.¹¹

But by that time, the AMA had achieved its aims. Medical education in North America was now based upon laboratory science followed by hospital internship. State support had been secured for both educational programs and professional control. And competing approaches to health care were effectively emasculated and presented no further problem. The great gain had been a widespread dissemination and utilisation of scientific knowledge of disease and rational methods of treatment. The great loss was a severe eclipsing of the art of physicianship that had been slowly won over many thousands of years.

In his report, Flexner recommended that clinical positions be established on a full-time salaried basis at Johns Hopkins. Rockefeller immediately provided US\$1.5 million. This was but the first small trickle of an eventual flood of funding that would be poured into the new medical education.

Over the next few years, the Rockefeller Foundation contributed an additional \$8 million to set up similar full-time positions at the medical schools of Washington University, Yale and the University of Chicago. Between 1919 and 1921, Rockefeller provided a further \$45 million to the General Education Board of the AMA, specifically for medical education. Philanthropic foundations eventually contributed the staggering sum of \$300 million for medical education and research in North America between 1910 and the early 1930s.¹²

It should be remembered that these developments were not simply a local manifestation of political influence and financial largesse. The leverage of the immense sums of money provided by the Carnegie and Rockefeller

philanthropies enabled the particular model of medicine taught at Johns Hopkins University to be universalised throughout North America. Other systems of medicine simply could not compete, and receded to the sidelines.

While these developments were gathering momentum, much of Europe was caught up in a brutal war that ravaged nations and left numerous institutions bereft. Among those were many European schools of medicine and their associated research facilities. Howard Berliner reflects:

After 1910, scientific medicine became institutionalised as the dominant mode of medicine in the US. Similarly, in the UK and Europe, American foundations, led by the Rockefeller philanthropies, gave considerable financial assistance to the rebuilding of medical schools that had been damaged during World War I. The principle was the same as the American educational reforms, with support going primarily to research institutions devoted to the pursuit of scientific medicine.¹³

Within a short time, the new scientific medicine had come to dominate medical education and health care throughout the Western world. The hospital had become an integral element in medical education. Laboratory research had ensured the creation of strong links with both industry and new technologies. And the slow but steady discovery of patentable new drugs that could be prescribed universally for specific conditions contributed to the development of pharmaceutical industries of unprecedented magnitude.

Yet the many healing modalities that had proven their value over historic periods, and newer approaches such as osteopathy, chiropractic and homoeopathy that offered a differing perspective to that of an increasingly reductionist biomedicine, continued to be quietly practised on the margins, seemingly awaiting their own time.

Chemical factories and medicine

By the 1930s, the position of scientific medicine was unassailable. The doctrine of specific aetiology had come to dominate medical thinking, spurred on by such successes as Ehrlich's cure for syphilis and trypanosomiasis, newly developed treatments for endocrine disorders through hormone replacement, and the implementation of successful vaccination programs.

Research laboratories throughout Europe were feverishly looking for drugs that could treat bacterial infections, a source of major mortality at the time. Paul Ehrlich had set the standard with his Compound 606. Attention was still focused on the chemical dyes that appeared to be selectively taken up by certain cells. Gerhard Domagk was a pharmacologist and research director

of I.G. Farben Industrie, a major German drug company that produced many of the new chemical dyestuffs that found increasing use in the textile and other industries. During the late 1920s and early 1930s, Domagk and his colleagues systematically tested the pharmacological activity of the new chemical dyes produced by I.G. Farben on streptococcal infections in mice. *Streptococcus haemolyticus* was known to be the causative agent of many common and often fatal infections in humans. Domagk had earlier experimented with a range of organo-metallic compounds, similar to those used by Ehrlich, but had found them all to be too toxic. His attention turned to *azo* dyes.

In 1932, Domagk discovered that one of the red dyes produced by his company could prevent death in mice infected with haemolytic streptococci. Although this patented compound, known as Prontosil, protected infected mice when given internally, it had no effect whatsoever on in vitro cultures of the bacterium. While pursuing these investigations, his daughter accidentally cut her finger, which became severely infected. She developed a high fever soon after and became seriously ill. Fearing for her life, Domagk injected her with several doses of Prontosil. Her condition changed dramatically. Within a few days, she had totally recovered.

Over the following three years, more than 1500 cases of severe streptococcal infection were treated by doctors in Germany with Prontosil. The results were stunning. A 1933 study reported on the dramatic cure of a 10-month-old child who was in the terminal stages of streptococcal septicaemia. But the results of these early tests were withheld from the medical community outside of Germany. News was finally released to the wider European community in 1935, a full three years after Domagk's initial discovery. Systemic streptococcal infection was, at that time, a known cause of premature death throughout the world.

The implications of the German studies of Prontosil were immediately understood in France, the United Kingdom and North America. A French researcher contacted I.G. Farben and asked for a small sample of the drug. They refused his request. The Laboratory of Therapeutic Chemistry at the Pasteur Institute similarly asked to be supplied with a small sample. They too were denied. The Pasteur Institute then tracked down the patent specifications for Prontosil, and within a short time had synthesised its own red crystals. These were then tested on infected mice. Their anti-streptococcal activity was dramatically confirmed.

It soon became apparent why the research carried out in Germany had been suppressed for three long years. The French scientists discovered that it was not Prontosil itself that killed the bacteria, but that the drug became effective only after it had been split by intracellular enzymes to produce a smaller molecule, sulphanilamide. Sulphanilamide itself had been first synthesised in 1908, and its patent had long since expired. Sulphanilamide

was, in fact, one of the starting materials used in the I.G. Farben process to synthesise Prontosil.

The French soon established that the hydrochloride salt of sulphanilamide was just as potent a cure for streptococcal infection as Prontosil itself and, unlike the patented compound, also inhibited the growth of in vitro streptococcal cultures.

In withholding their findings from the world's medical community, I.G. Farben were clearly playing for time. They knew that their patent would not hold. Large and powerful drug companies are not necessarily driven exclusively by moral and humanistic concerns.¹⁴

Random screening and drug discovery

Sulphanilamide was discovered using the same method, random screening, as that developed by Paul Ehrlich thirty years earlier. In the ten years after Domagk's discovery of the anti-streptococcal activity of Prontosil, over 5400 derivatives of sulphanilamide were synthesised and then systematically tested for anti-bacterial activity. A handful of these have survived into the present time. British doctor and researcher Ronald Hare has observed:

The first step that led to it [Prontosil] had been nothing more than the 'screening' of every new compound produced by the industrial empire that employed Domagk However unintellectual the method may have been, it was better than nothing, and in the end paid dividends.¹⁵

In a similar manner, the investigation of antibacterial activity in *Penicillium notatum* and the consequent discovery of penicillins by Howard Florey in 1939 led to the screening of many thousands of related moulds and soil bacteria in the search for new antibiotics. During the mid-1940s, medical researcher Selman Waksman tested over one thousand different species of soil moulds and bacteria. Around a hundred species of those possessed antibiotic activity, but only 5 per cent of these proved to be sufficiently non-toxic to be clinically applicable. Among them was the soil mould *Streptomyces griseus*, from which was isolated the streptomycin that revolutionised the treatment of tuberculosis at that time.

The discovery of sulphanilamide and the newer microbial antibiotics soon after were major triumphs for biomedicine. Science, technology and human determination had uncovered entire new classes of medicines of extraordinary power. By that time, the practice of emergency medicine and surgery had also become much safer and more predictable through the use of aseptic and anaesthetic procedures. The widespread successes of immunisation programs had

further strengthened a growing sense that biomedicine was bringing humanity to a promised land of vibrant health and freedom from disease.

In addition, the development of steroid-based drugs derived from plants such as *Sisal* and *Dioscorea* during the 1950s enabled biomedicine to provide unprecedented control of female fertility through the use of steroid-based contraceptives, and the power to control inflammatory processes through the use of synthesised cortisone analogues. In time, such developments would enable a new wave of heroic surgeons to replace faulty hearts and kidneys without fear of the body's rejection of organs retrieved from the bodies of others.

The lengthening shadows

By the middle of the twentieth century, a reductionist philosophy built upon highly analytical knowledge of the body and of disease processes had overtaken biomedicine. Traditional sources of authority such as the Church and State progressively lost influence as science and technology became the new repositories of knowledge and power. Yet despite the numerous advances in medical understanding, and the application of a new generation of medical technologies from the 1920s onwards, a lengthening shadow began to darken the bright future promised by scientific medicine.

The reductionist approach to medicine had shifted the focus of attention largely to the body and its organ systems. The role of broader influences in the determination of health and disease was by and large disregarded. Social, economic and environmental influences on human wellbeing remained the domain of social scientists and a small group of epidemiologists. The role of mind and spirit in the creation of health and disease was simply not on the agenda. The once-human face of medicine was progressively masked by a complex mosaic of scientific knowledge, technical mastery and disease management.

Despite the cultural status, awesome technology and huge administrative empire commanded by Western biomedicine, doubts began to be raised about its actual effectiveness in delivering universal good health. It became more and more apparent that the increasingly expensive approach of biomedicine was failing to curb, let alone overcome, many chronic and age-related diseases including cancer, circulatory disease, Alzheimer's disease and, most recently, AIDS.¹⁶

Although the ancient scourges of leprosy, plague, diphtheria, malaria, cholera and tuberculosis had been largely overcome through quarantine, vaccination and the use of antibiotics, the effects of poverty, drought, famine and environmental degradation have in recent times seen the emergence of

new and deadly viral diseases and the re-emergence of old plagues in different parts of the world. Diphtheria re-appeared in the wake of the break-up of the former Soviet Union. Parts of Africa and Latin America have similarly seen minor epidemics of cholera and yellow fever. Periodic outbreaks of the Ebola virus continue to terrorise impoverished and famine-stricken African communities.

During the mid-90s, a multi-disciplinary group from Harvard University drew attention to the widespread resurgence of infectious epidemics in a number of countries. They pointed out that the problem was not due to an insufficiency or failure of powerful drugs, but rather to changes in global ecology that have created conditions of increasing proneness of susceptible populations to major epidemics. Writing in 1995, they concluded:

Disease cannot be understood (let alone countered) in isolation from the social, ecological, epidemiological and evolutionary context in which it emerges and spreads. Indeed, if one lesson has emerged from the spectacular failure of Western medicine to 'eradicate' certain diseases, it is that diseases cannot be reduced to a single cause nor explained within the prevailing linear scientific method: complexity is their hallmark.¹⁷

An increasingly holistic appreciation of the role of multiple and inter-dependent influences on health began to influence medical understanding. The needs of the present time call for a broader medicine than one based largely on individual biology.

Winds of change

Rene Dubos was one of the cadre of medical scientists who directed their energies to the search for cures for bacterial infections during the 1940s. Inspired by the remarkable successes of the early penicillins in war-ravaged Europe, Dubos went on to discover a number of powerful antibiotic drugs derived from soil microbes. Yet despite the triumphal mood of many of his colleagues, he cautioned against too simplistic a view of the nature of health and disease. In 1959, Dubos observed:

By equating disease with the effect of a precise cause—microbial invader, biochemical lesion or mental stress—the doctrine of specific aetiology appeared to negate the philosophical view of health as equilibrium and to render obsolete the traditional art of medicine. Oddly enough, however, the vague and abstract concepts symbolized by the Hippocratic doctrine of harmony are now re-entering the scientific arena.¹⁸

Dubos' understanding is grounded in a deep awareness of the currents of medical thought that have coursed through history. Although immersed in laboratory culture, he was never seduced by the positivism of a nascent medical technocracy. His writings fully acknowledge the role of the civil and sanitary engineers of the nineteenth century who built the drains and sewers that helped remove wastes produced by burgeoning urban communities. Writing in 1979, Rene Dubos gently derided biomedicine's self-proclaimed status as a scientific discipline:

There is more to medical science than the reductionist analysis of cellular structures and chemical mechanisms, more to medical care than procedures derived from the study of isolated body systems . . . The scientific medicine of our times is not yet scientific enough because it neglects, when it does not completely ignore, the multifarious environmental and emotional factors that affect the human organism in health and in disease. Reducing the normal and pathological processes of life to the phenomena of molecular biology is simply not sufficient if we are to understand the human condition in health and in disease.¹⁹

Dubos was as much a shaman as a scientific researcher. He understood our essential embeddedness within life, and the social, cultural and historical realities that condition our health and wellbeing as deeply as do physiology and biochemistry. In a reflection of the depth of his commitment and vision, he was later to co-author, with Barbara Ward, the remarkable document of a civilisation in deep trouble, *Only One Earth*.

Rene Dubos remained mindful of the power of non-rational influences in the healing practices of all cultures. He called attention to the folly of disregarding or discrediting the importance of such influences:

Regardless of the level of cultural and economic development, all people throughout history and in the different parts of the world have practiced simultaneously two kinds of medicine. On the one hand, they have made use of drugs, surgical interventions and nutritional regimens to deal with traumatic accidents and with certain organic disorders that they could readily apprehend. On the other hand, they have developed practices of a semi-mystical or completely religious nature designed to cure physical and mental diseases by influencing the patient's mind. These non-organic healing practices—such as chants, prayers, pilgrimages, and the like—are usually regarded as irrational by outsiders, but nevertheless they often contribute to the recovery of the patient by helping him to mobilize unconsciously the innate mechanisms for spontaneous self-healing that exist in all living creatures.²⁰

Dubos gave voice to that side of human nature that cannot be fully encompassed by science as it presently stands. He pointed strongly towards the subtler dimensions of mind and spirit that inform the holistic perspective.

The new ethicists

During the 1960s, British physician Maurice Pappworth raised his own concerns regarding the direction in which biomedicine was moving. He took issue with the increasingly heroic experimental procedures and diagnostic methods used in biomedicine. He cites the tragic and unnecessary blinding of eight newborn infants in a controlled clinical trial undertaken in 1954 to test a *known* relationship between the development of retrolental fibroplasia and the use of high concentrations of oxygen in premature infants. Four published reports over the previous five years had established with near certainty the relationship between high oxygen levels and blindness in premature neonates. Pappworth angrily proclaimed: 'In the name of "science", worshippers at the shrine of the controlled series rendered eight infants blind to prove what others considered to have been previously established.'²¹

Pappworth laid himself on the line when he published his concerns under the title of *Human Guinea Pigs: Experimentation on man*. He was clearly dismayed at how few of his colleagues were prepared to speak openly regarding the less desirable consequences of many of the investigations and procedures carried out at the time. His book was strongly criticised by reviewers in the *Lancet*, the *World Medical Journal* and the *British Medical Journal*. Pappworth concluded:

No doctor is justified in placing science or the public welfare first and his obligation to his patient second. Any claim to act for the good of society should be regarded with extreme distaste and even alarm, as it may be a high-flown expression to cloak outrageous acts. A worthy end does not justify unworthy means.²²

Maurice Pappworth was not alone in his deliberations. Across the Atlantic, anaesthesiologist and Harvard Medical School professor Henry Beecher more gently called medical researchers to attention. During the course of his own inquiries regarding the ethics of medical research, Beecher uncovered numerous examples of experimental procedures that put patients into needless danger, and in some cases resulted in their death. He originally submitted his findings to the *Journal of the American Medical Association* in 1965. The editors refused publication. He then forwarded a modified version to *The New England Journal of Medicine*, where it appeared in 1966. The article was later

to be described as 'the most influential single paper ever written about experimentation involving human subjects'.²³ In it, Beecher observed:

During ten years of study of these matters it has become apparent that thoughtlessness and carelessness, not a wilful disregard of the patient's rights, accounts for most of the cases encountered. Nonetheless, it is evident that in many of the examples presented, the investigators have risked the health or the life of their subjects.²⁴

Both Pappworth and Beecher reminded their colleagues of the Hippocratic dictum first voiced by Greek physicians two and a half thousand years earlier: '*Primum non nocere*'. Firstly, do no harm. They spoke out strongly against the tendency of technological medicine to lose sight of the individual patient in its quest for greater knowledge of physiological processes and biochemical mechanisms.

Over the following decade, the authority of biomedicine came under increasing fire on several fronts. American lawyer Rick Carlson proclaimed *The End of Medicine* in 1975. Cultural and educational reformer Ivan Illich drew upon himself the collective rancour of the Western medical profession by the publication of his *Limits to Medicine* in 1976. Before the seventies were done, Australian physician and prominent member of the Doctors Reform Society, Richard Taylor made his own views clear in the content and title of his book, *Medicine Out of Control: The anatomy of a malignant technology*.

The softly spoken earlier admonishments of Rene Dubos and Henry Beecher paled in comparison to the assaults upon biomedicine launched by Carlson, Illich and Taylor. Each declared that biomedicine fell far short of its professed obligations, though in markedly different ways.

At much the same time, a number of different therapeutic approaches to those offered by the dominant biomedicine began to gain in both popularity and credibility. Increasing numbers of patients began to actively seek out the services of practitioners of what was commonly referred to as alternative or complementary medicine.

The critiques

Rick Carlson identified the disease-centred approach of biomedicine as a major problem. Significant causes of disease other than those of biological origin had been too readily overlooked. Population medicine, and social and environmental medicine, were not major elements in the biomedical paradigm. The pursuit of specialist technical diagnosis came at the cost of neglecting the broader life circumstances of patients.

Modern medicine has only one approach to health—a wholly disease-oriented approach. Its paradigm of healing assumes that highly refined techniques and profound interventions into the body can produce health by eliminating the symptoms of disease. This has led to . . . the neglect of a blizzard of phenomena about the human being, because it does not fit the paradigm.²⁵

Social reformer and former Jesuit priest Ivan Illich claimed that biomedicine had usurped the trust of patients through the often unnecessary use of technology, through its mystifying language, and through a systematic evasion of the inescapable reality of suffering and death in human experience. Within the labyrinth of technological medicine, we somehow lose sight of the essential human being. Illich also contended that biomedicine actively supports, and is itself supported by, a socioeconomic system that is inherently sickening to individuals, to societies and to the biosphere itself:

Traditional cultures and technological civilisation start from opposite assumptions. In every traditional culture the psychotherapy, belief systems, and drugs needed to withstand most pain are built into everyday behavior and reflect the conviction that reality is harsh and death inevitable. In the twentieth century dystopia, the necessity to bear painful reality, within or without, is interpreted as a failure of the socioeconomic system, and pain is treated as an emergent contingency which must be dealt with by extraordinary interventions.²⁶

Illich's critique called for the radical re-humanisation of Western medicine in order that it offer more to patients than a pharmaceutical and technological management of the pain of birth, life and death.

Across the Pacific, a newly graduated doctor from Sydney University began to express his own concerns about an increasingly technological system of medicine. Richard Taylor showed his cards early in the piece. He was one of the most courageously outspoken critics of biomedicine in Australia at the time. Taylor was an active member of the Doctors Reform Society from the middle to the late 1970s, and later gave more enduring form to his critique in the publication of *Medicine Out of Control*. Taylor cut deeply to reveal what he believes are the fear-based mechanisms of control and compliance used by some within the medical establishment to create docile patients dependent upon regular check-ups, expensive tests and questionable screening programs:

Rather than adopt measures that can be understood and carried out by the normal average person, the medical establishment has elected to usurp

the capacity of the individual to look after his or her own health. Instead of encouraging self-sufficiency, independence and self-reliance in health and illness, doctors have persistently contrived to produce dependent hypochondriacs. Rather than emphasising change in lifestyle and mores by education and through environmental, social and economic channels as a means of tackling the main diseases of modern man, they have concentrated on doctor-patient contact and 'treatment' as the main means of prevention.²⁷

At the time that it was published, Taylor's work reflected a growing disaffection with biomedicine. He called attention to the role of vested interests in medicine, to the inadequacies of the medical paradigm and to widespread therapeutic failure as he saw it, particularly in the so-called diseases of civilisation. He further suggested that pharmaceutical and technological fixes tended to mask a deep neglect of the role of social, environmental, economic and lifestyle issues in disease creation and perpetuation:

We must recognize that it is the way we live, eat, smoke (or not smoke), work, drive, exercise (or not exercise), that are the main determinants of our health. And that these actions are determined as much, or more, by concrete circumstantial factors relating to social and economic organization as they are by individual 'choice'.²⁸

In the years since the publication of Taylor's book, things may have changed a little. Tobacco companies now begin to reel under an onslaught of lawsuits from many whose lives have been scorched by addiction to tobacco. Government funded health promotion bodies now encourage people to get off their couches and onto their feet. Organically grown vegetables and meats are more easily obtainable by those who can afford them. Yet fast food outlets continue to thrive, and children's programs on television continue to sport advertisements for sugar-laden snack bars and cheap hamburgers.

American sociologist John Ehrenreich went on to make his own observations. He disputed the suggestion that biomedicine actively conspires to create a state of dependency in patients, and suggested rather that widespread dependency is a cultural reality in Western, and particularly US, society. This dependency is promoted and conveniently exploited by vested interests within the medical establishment:

The dependency and passivity characteristic of modern medical care are sought by patients as well as imposed by doctors; they reflect not only the interests of the doctors and of giant corporations, but also the needs of patients. Medicine as practiced in the US may reinforce dependence and

passivity in the face of bourgeois domination; it does not, however, create them.²⁹

Despite the differing academic and occupational allegiances of Carlson, Illich, Taylor and Ehrenreich, there is a surprising level of agreement in their essential criticisms. All identify the presence of such factors as reductionism in medicine, medicalisation of the life process, disencouragement of independence, self-reliance and autonomy in patients, and the runaway costs of technomedicine as portents of an unsustainable system adrift from its historical mission.

Interestingly, none of these authors attributed any great significance to the increasing presence of alternative and complementary approaches to medicine as either a counterbalance or a potential restorative for the problems in biomedicine. Rick Carlson glancingly suggested, however, that more naturalistic approaches in fact represent authentic forms of healing that more often satisfy real rather than created needs in patients:

The natural healer, whether physician or shaman, fosters and builds upon the confidence and belief of his patients. This is a crucial difference. Today's physicians create a climate of uncertainty and dependence and are consequently left with only the tools of massive intervention to effect a cure. Patients' complicity is seldom encouraged. Thus the most fundamental factor in healing is denied.³⁰

These critiques gave voice to a gathering disaffection with a profession that had, over the course of the twentieth century, gained immense scientific, institutional and economic credibility, yet appeared to have strangely lost touch with its own humanity. These critiques were part of a growing realisation that medical responsibility included not only attending to the alleviation of sickness and disease in individual patients, but also the active creation of a reflective, informed and autonomous culture capable of responding healthily to the myriad abuses of persons, peoples and planet to which we are daily witness.

The rebound

The wave of criticism directed towards biomedicine during the 1970s was paralleled by a steady growth in popularity and patronage of practitioners of complementary medicine. This was met with considerable hostility from a biomedical profession whose authority was not so much being directly challenged by the work of individual practitioners, but more by the simple reality on the ground. Increasing numbers of patients were choosing to go elsewhere.

By the middle to late 1980s, the medical profession throughout the English-speaking world was expressing its displeasure through the pages of its learned journals. Sociologist Mike Saks reported regarding the situation in the United Kingdom at the time:

The ongoing adversarial climate between orthodox and alternative medicine was most apparent, though, in the report of the British Medical Association on alternative therapy. Much of the first half of the report was devoted to documenting the triumphant march of progress of orthodox biomedicine, in classic modernist fashion. In the remainder, alternative therapies were attacked for being 'unscientific', not least because of their link to medieval superstition and witchcraft.³¹

Elements within complementary medicine that were perceived as being extreme were selectively targeted in such criticisms that were nonetheless directed towards non-biomedical approaches generally. Shortly after the BMA attack on complementary medicine, the work of the founder of the first cancer support groups based on holistic principles in Australia came under direct fire. After having successfully overcome osteosarcoma through the use of both biomedical and unorthodox methods of cancer treatment, Ian Gawler reported his experiences using dietary modification, meditation and visualisation, and natural medicine supplements in *You Can Conquer Cancer*, published in 1984.³²

Gawler succeeded in inflaming the passions of the Australian medical fraternity. His work was ferociously denounced in an editorial written for the December 1989 edition of the *Medical Journal of Australia* by UK oncologist Michael Baum. Referring to a highly critical review of Gawler's book by Australian cancer specialist Raymond Lowenthal that appeared in the same edition of the *MJA*, Baum commented:

The current controversy about alternative medicine in Australia as illustrated within this issue of the Journal is not some local problem or phenomenon of contemporary life, but another symptom of the virus of irrationalism that is a serious threat to the health and welfare of all nations . . . How many cancer sufferers will be denied the proved benefits of modern oncological practice while awaiting the miraculous cure that has been claimed by Ian Gawler?³³

Michael Baum took very seriously the threat posed to biomedicine by the more holistic approaches to treatment of chronic conditions, including cancer, that were gaining increasing attention throughout the West. Yet in coming years, many of his own colleagues would begin to reconsider the potential value of other approaches, without dismissing them in their entirety.

It should be asked whether the criterion of rationality had perhaps overly determined Baum's judgements. As will be discussed in later chapters, there are principles other than those underlying rationality that determine our wellbeing. In addition, one wonders whether Baum's criticism of Gawler's ideas represents more a knee-jerk reaction than a careful consideration of the notions presented. Anyone familiar with Gawler's writings and activities will realise that nowhere does he claim to have discovered a miraculous cure for cancer. Rather, Gawler's essential message is that great personal commitment and much hard work are needed in the uncertain task of reclaiming health after a diagnosis of cancer.

The dilemma uncovered

We are presently witnessing a significant reorientation of a profession that has for much of the twentieth century focused on the technical aspects of physicianship to the detriment of its more humanistic role. Writing in the late 1970s, physician and medical philosopher Edmund Pellegrino identified the tension between the technological orientation of biomedicine and its humanistic obligations:

Much of the discontent with medicine today arises from the disjunction patients feel between the doctor's technical role and the hieratic role which he formerly performed. We shall have to accept as a fact (an unpalatable fact, for many) that the ideal of reuniting these two radically different functions may become impossible.³⁴

It must be asked whether Edmund Pellegrino has perhaps too readily accepted that the supposed dissonance between the traditionally hieratic role of the doctor and the present technical capabilities of biomedicine are unbridgeable. The immense amount of information to be acquired by students of medicine and the constant pressure of hospital internship have certainly contributed to a narrowing of the horizons of many practitioners of biomedicine. But a more fruitful approach to resolving the tension between the role of science and the role of art in medicine may lie more in the re-humanising of medical education than in a further division of labour. Such issues hinge on the simple perception of possibilities. Pellegrino continues:

Is it more mature to assign medicine a limited role in our lives, so that we do not look for more than it can offer? Its domain could be limited to those disorders susceptible to specific therapy. On this view, the hieratic,

personal and supportive functions could be assigned to people outside the medical profession altogether—to the patient himself, his family, friends, or a new set of therapists whose training would not be technical.³⁵

One again wonders whether a clear delineation of therapeutic roles has perhaps been too readily accepted. We are here presented with a restatement of the perennial dilemma of physicianship: the task of bridging between the scientist and the artist, the thinker and the doer, the technician and the empath.

The doctrine of specific aetiology has given rise to the immensely powerful specific therapies of biomedicine. But there has always been more to physicianship than the treatment of specific diagnosable conditions. Remaining a source of hope and healing for those patients whose conditions do not respond to conventional 'proven' treatments may require a broadening of perspective rather than a limitation of responsibility. The holistic methods offered by practitioners of complementary medicine will prove to be valuable allies in this task.

The new holists

Despite strong reactions in certain quarters, the boundaries of acceptable medicine began to noticeably broaden during the 1980s. The limitations of reductionist forms of treatment were increasingly acknowledged by a vocal group of doctors who took their insights directly to the public, as well as to their colleagues.

A new wave of medical authors spilled onto the scene. American physician Larry Dossey called upon his colleagues to take on board the insights of the new physics in order to move beyond the crippling reductionism into which it was locked.³⁶ He has more recently totally broken ranks in writings that explore the influence of such activities as prayer on the healing process.³⁷

Bernie Siegal called upon biomedicine to shed its distancing armour of professionalism and to re-awaken its capacity for human love and wonder in his book *Love, Medicine and Miracles*, published in 1986. And in the early 1990s, American researcher and physician Kenneth Pelletier urged that biomedicine reconsider its primarily disease-oriented approach, and called for a re-awakening of interest in the study of health and of those human qualities that nurture and sustain positive health through all of one's life.³⁸

Putting aside the formal epistemologies that had over the previous century deemed the acceptable limits of medical truth, all possibilities were not only permitted but were actively welcomed in the name of holism, mind-body medicine and a 'new paradigm' of health and healing.

Anecdotal case histories that revealed unusual and unexpected cures were presented by those within the new vanguard of a regenerating medicine. The hidden shaman within each doctor was encouraged to emerge. The healing powers of meditation and visualisation were declared accessible to all who would give of their time and attention. The previously discounted and devalued therapies of complementary medicine were increasingly welcomed as the new physics legitimised a broadened view of the universe, where mind, matter and energy coalesced into an interdependent and interchangeable unity. It was as though the formality and measure that had characterised the biomedical approach over many decades were loosening in the growing interest in other approaches to healing that were based upon notions foreign to those of scientific medicine.

Holistic medicine represents a conscious re-acquisition of many of the principles that have informed the practice of medicine at all times and in all cultures. Hippocratic medicine was conscious of the effects of the environment and of one's way of life upon health and disease. Eastern systems of medicine similarly view the person as being in dynamic and constant interaction with environmental influences.

The obstinate Cartesian dualism that separates bodily mechanism from mental process is presently being revisited as such new disciplines as psychoneuroimmunology begin to gain in credibility and influence. Like holism itself, the role of the mind in the creation of both disease and health has been long recognised in medical culture. Paracelsus understood it to be integral to healing:

The great world is only a product of the imagination of the universal mind, and man is a little world of its own that imagines and creates by the power of imagination. If man's imagination is strong enough to penetrate into every corner of his interior world, it will be able to create things in those corners, and whatever man thinks will take form in his soul.³⁹

These more recent developments point towards a re-evaluation of much that has been dismissed or disregarded in the dominant model of scientific medicine. In the chapters that follow, the holistic perspectives embodied in the various modalities of complementary medicine will be explored in detail in order to better understand their role in the healing of the healing profession itself.



PART II

Principles



Chapter 7

Turning the medicine wheel

Between paradigms

Nothing that exists exists for its own sake; it exists for the sake of the whole.

Jean Gebser, 1949¹

Far from constituting the pinnacle of human evolution, or the ultimate flowering of 'progress', the attitude of rationalism is an evolutionary dead end.

Georg Feuerstein, 1987²

The cultural dominance of biomedicine and its extraordinary successes have led many to believe it to be the one true medicine, the safe and effective medicine that has evolved out of the ages, superior in every way to everything coming before it and to the many other, lesser known, systems of medicine. Biomedicine has realised its present status through a commitment to what has become known as scientific method, a powerful method of inquiry aimed at generating new knowledge that can be codified, tested and transmitted to a professional community.

The key elements of scientific method are careful observation, rigorous measurement, experimentation and theory development. These elements have, in varying degrees, been part of the human endeavour to understand the phenomenal world throughout recorded history. This is reflected in the knowledge and skills used in architecture and building construction, astronomy and navigation, the discovery of medicinal agents and the practice of medicine.

Over the past century, the methods of science have been systematically applied to the study of the human body and its diseases. This has resulted in the new knowledge that underlies much of Western scientific medicine.

Biomedicine has developed out of a particular epistemological project. It is based, by and large, on the concepts of materialism, mechanism and rationality.

Holistic medicine fully accepts the validity of these concepts and the insights into the nature of the body and its diseases that they have given rise to. Holism by its nature also accepts that human life is influenced by factors other than those associated with materiality, mechanism and rationality. The role of mind in the creation of health and sickness, and the existence of an energetic or spiritual dimension associated with life represent elements of the holistic understanding for which acceptable epistemologies have yet to be developed.

Not entirely rationalist: Descartes and Newton

Scientific modernism is widely seen as one of the fruits of the methods developed by René Descartes and Isaac Newton during the seventeenth and eighteenth centuries. It is worth reflecting on both Descartes' and Newton's broader interests in order to better appreciate their relationship with the ideas and philosophies that have been posthumously ascribed to them.

René Descartes was born in France in 1596. As a young man, he was fascinated by the clarity, certainty and elegance of classical geometrical theorems. He wondered whether such certainty could be brought to bear on other aspects of human thought and endeavour. Putting aside the books and disputations that had characterised his early Jesuit upbringing, he began to seek out knowledge from direct experience and from the 'book of life'. He joined the Bavarian army as a soldier.

On the night of 10 November 1619, while sheltering from a severe winter in the city of Ulm, Descartes was profoundly shaken by three powerful dreams. These dreams ignited within him a sense of mission and destiny that were to drive him thereafter. On completion of his military training in 1623, he undertook a pilgrimage to the shrine of Our Lady of Loreto in Italy in gratitude for the insights gained that night in 1619. Although Descartes himself believed that the dreams had come from God, their influence upon him was later to be described as 'the most disastrous moment in the history of Europe'.³

Descartes set himself the task of creating a method of inquiry that would ensure all new knowledge would thereafter rest upon unshakeable foundations. This was to be established by applying his 'method of doubt'. That method was described in detail in his *Discourse on the Method of Properly Guiding the Reason in the Search of Truth in the Sciences*, written eighteen years after his illumination at Ulm. Central to Descartes' project was the separation of mind (*res cogitans*) from body (*res extensa*):

Among the metaphysical theses developed throughout the *Meditations* is that mind and body have distinct essences; that the essence of thinking substance is pure thought/consciousness/awareness, while the essence of body is pure extension.⁴

Although he held near-mystical views of the nature of the mind, Descartes viewed the world, including living organisms, in mechanistic terms. He believed that the workings of complex systems could be understood through a systematic analysis of their individual components. This approach had a particularly strong influence on the methods that helped to empower the scientific revolution over the following two centuries.

The methods developed by Descartes were applied by a new generation of scientists who progressively retreated from spiritual or mystical interpretations of the world and its workings. The role of Divine influence steadily retreated as new knowledge led to greater powers of control and prediction. Ironically, Descartes himself maintained life-long friendships and correspondence with theologians, and lived and died as a devout Catholic.

Isaac Newton is remembered as the intellectual giant who gave to the world the *Principia Mathematica* in 1687. This work described, for the first time, revolutionary new methods of mathematical analysis. Newton's studies of the nature and interactions of light, and his discovery of the laws of gravity confirmed the extraordinary power of these methods. Newton showed conclusively that the physical universe operated according to immutable laws that, once known and understood, offered immense powers of control and predictability to those who understood them. He was a living vindication of Descartes' quest to find methods that would, once and for all, lead to a certain knowledge of truth.

Newton's genius was fed by an unyielding tenacity. A man of extraordinary discipline, he spent many of his younger years as a solitary observer of the night sky. He meticulously measured the movements of the planets through the fixed constellations, and the movements of the constellations through the seasons of the year. He made his own telescopes and experimented with various lenses, discovering that white light was composed of the various colours of the spectrum. Having been introduced to the works of Descartes, Kepler and Galileo while a student at Cambridge, Newton applied his genius to a series of investigations on the properties of light, the laws of motion and the movements of planetary bodies.

Between the lines, however, Newton gave over much of his formidable mental energy to wide-ranging alchemical investigations during his early years, and in an ongoing study of Church history and theology in his latter years. It is a curious fact that Newton's lesser known activities have been largely lost to history. American historian Betty Dobbs reflects:

The Newtonian world view, indeed, developed almost wholly on the basis of his successes in mathematics and physical science, so subtly and deeply colored the thoughts of succeeding generations that the fuller seventeenth-century context in which Newton's thought had developed was lost to view. Thus it became a curious anomaly—and one to be explained away—that Newton's studies in astronomy, optics and mathematics only occupied a small portion of his time. In fact, most of his great powers were poured out upon church history, theology, 'the chronology of ancient kingdoms', prophecy and alchemy.⁵

Although the rationalist paradigm that underlies much of Western science has long been associated with the names of René Descartes and Isaac Newton, one may well question whether either would be comfortable with the virtual elimination of the numinous in 'scientific matters' that has since been carried out in their name.

The great divide

Much of contemporary Western medicine is unlike anything that has ever preceded it. The immense body of medical knowledge accumulated through the collective efforts of countless healers over long periods of time was largely left behind once the new methods of science began to reveal their power.

Simple extracts of plants that had been used as medicines for thousands of years were replaced by a grain or two of purified alkaloids. Humoral diagnosis, based on the four elements of the ancients, was progressively put aside as new knowledge of anatomical pathology began to emerge. And spiritual or metaphysical interpretations of disease were deemed irrelevant after the discovery of disease-causing micro-organisms and the development of modern epidemiology.

Descartes' separation of the body from the mind, and Newton's demonstration that observation and measurement were the well-springs of certain knowledge, drove medicine ever deeper into materiality in its quest for power and control over human diseases. The new knowledge of the body and of its workings uncovered by early anatomists, physiologists and pharmacologists became the foundation upon which a powerful new institution began to take form.

By the first decades of the twentieth century, scientific medicine was well established throughout the West. Its practitioners acquired their knowledge through many years of intensive training in universities and hospitals. The new medicine was a dramatic medicine, a life-saving medicine, one capable of identifying disease with certainty and dealing decisively, if not with the

disease itself, then with its distressing and painful symptoms through medication or surgery.

Reflecting on the ideas held by 'primitive' doctors and indigenous healers, medical historian Fielding Garrison was to declare in the late 1920s:

Disease [was regarded] as something produced by a human enemy possessing supernatural powers, which he strove to ward off by appropriate spells and sorcery, similar to those employed by the enemy himself. Again, his own reflection in the water, his shadow in the sunlight, what he saw in dreams, or in an occasional nightmare from gluttony, suggested the existence of a spirit-world apart from his daily life and of a soul or *alter ego* apart from his body. In this way, he hit upon a third way of looking at disease as the work of offended spirits of the dead . . . These three views of disease are common beliefs of the lowest grades of human life.⁶

Having dismissed dreams as a by-product of disturbed digestion, and denying outright the existence of spiritual realities and the human soul, Garrison identified himself as a member of a new elite of healers whose knowledge and understanding had superseded the 'primitive' notions held by healers of other times and other cultures. Yet human nature does not necessarily conform to the Euclidean precision favoured by the scientific view of the world. Our consciousness and beliefs continue to be determined by cultural realities that are based on far more than science and rationality.

The urban shaman

American doctor Larry Dossey has recounted a memorable episode that occurred in the wards of the hospital in which he undertook his internship during the 1960s. A weakened and emaciated old man had been admitted to the hospital after having inexplicably lost more than 20 kilograms in weight over the previous six months. Cancer was immediately suspected, and the full range of pathology tests was ordered by his friend, a fellow intern who was in charge of the case. After two weeks of intensive investigations, the doctors were no closer to a diagnosis and the patient was growing steadily weaker. Dossey's friend said to the old man, 'You're dying and I don't know why.' His patient then confided that there was nothing that could save him, for a curse had been placed on him by a shaman. An enemy had secretly obtained a lock of the old man's hair, upon which the shaman had performed her magic. The old man had then been duly informed of the curse. His appetite had immediately dried up and he had begun to lose weight. His health steadily declined and he eventually ended up in hospital.

Dossey describes how he and his friend dealt with this dilemma. At midnight on the following Saturday, when few fellow staff members were present, Dossey roused the old man and quietly wheeled him through the darkened corridors to an examination room where Dossey's friend was waiting, sitting before a table. The only light in the room was a small blue flame flickering from an inflammable tablet placed on a metal tray. After a minute or two of complete silence, Dossey's friend ceremoniously rose from his seat and slowly approached the old man. Using a pair of stainless steel scissors, he cut a lock of hair from the old man's head. Fixing his eyes upon the old man, he lowered the hair into the flame intoning, 'As the fire burns your hair, the curse in your body is destroyed.'

After a further brief period of silence, they wheeled the old man out of the smoke-filled room and returned him to his bed. The transformation was immediate. The next morning, the old man ordered multiple serves of breakfast and continued to ask for extra helpings with each meal thereafter. Within a short time, both his strength and his weight began to return. As the old man left the hospital soon after, he smilingly thanked the two young doctors who had saved him.⁷

Human experience casts long shadows that are not so easily dispersed by new interpretations of the nature of the world, regardless of their power to explain phenomena or account for the mysterious. Looking at human disease and sickness in purely physical and mechanistic terms certainly provides us with clear and irrefutable stories of how diseases may arise and how they affect the body, but this is done at the cost of neglecting the many contexts from which we, as humans, draw meaning. The historical and cultural traditions within which we are raised can powerfully shape our view of the world and the forces within it.

A crisis in our own health, or in the health of a loved one, can draw forth many possible responses. As well as making use of whatever help scientific medicine can provide, many will also seek comfort and assistance through prayer. Places of worship such as Lourdes, Mecca, Varanasi and Medjugorje are regularly visited by many thousands of pilgrims who search for healing above and beyond the ministrations of the various medical professions. Such gestures do not necessarily reflect the actions of 'low grade' or 'primitive' minds. Rather, they affirm an understanding that we are moved by forces that have yet to be fully understood.

Beyond rationality: Jean Gebser

The transformations of medicine over the course of recorded history show that our understanding of the world can undergo quantum changes that

affect both the way we think and the way we go about doing things. But we do not necessarily automatically discard the 'primitive' notions according to which we may have lived in the past. Although the power of analytical thought and our newly discovered capacity for rationality may have become signatures of the present technological age, these are not the sole determinants of our behaviour. The past is not so lightly shaken off.

Moved by the great contradictions lived out during the first half of the twentieth century, the Swiss cultural philosopher Jean Gebser sought to provide a perspective that offered some understanding of the dilemmas confronting the contemporary world. As a student of language and culture, Gebser cast his net far and wide in an attempt to discern the nature of the revolutions in consciousness that had led to the development of human rationality.

Gebser was more a generalist than a specialist, more an artist than a scientist. His ideas were drawn from the fields of literature, art, poetry, psychology and science. At the outbreak of World War II, he moved from France to Switzerland where he was befriended by the psychologist Carl Jung. Gebser found a ready audience at Jung's institute, where he lectured for many years.

Gebser's great fascination and interest lay in the development of human consciousness. He suggested that over the course of many thousands of generations, human consciousness has undergone a series of progressive mutations, each of which has radically altered our potential. He named these, in sequence, the archaic, the magical, the mythical and the mental modes of consciousness. Gebser also suggested that the mutation that informs the mental structure of consciousness, which is dominant today, has been active over the past 10000 to 12000 years. He suggests further that the rational mode of consciousness that has been so influential over the past 500 years represents the most recent, though not necessarily the most humane or balanced, development of the mental structure.

Writing in the late 1940s, Gebser suggested that humanity is presently undergoing another major mutation in consciousness; the mental structure, characterised by its philosophical and material accomplishments, is presently being infused by what Gebser has termed the integral structure, characterised by an increasingly holistic sensitivity and an intensification of spiritual energy. More will be said about this later in the chapter.

Gebser believed that earlier structures of consciousness, though apparently superseded, continue to exert their influence in subtle and often unconscious ways. Our present consciousness is conditioned not only by the newly emergent rationality that characterises the present age, but carries echoes of magical and mythical consciousness. Gebser's model provides a useful framework for understanding not only the contradictory currents that have moved the will to healing during different historical periods, but

also those that presently govern relations between nations, between people and within ourselves.

In matters of health and sickness, we are moved by more than the massive cultural and institutional power exercised by scientific medicine. Despite the financial support of Western governments, the reassurance provided by rigorous medical education programs and the influence of public health campaigns, our responses to issues affecting our health continue to be visceral as well as rational, emotional as well as physical, philosophical as well as practical.

The deficiencies of a medicine founded largely upon materiality and rationality have awakened a growing realisation that there is more to the story. The movement towards holism in medicine seeks to identify and integrate elements that are presently generally neglected into a broader understanding. This may call not only for a reacquisition of medical skills and wisdom that have perhaps been prematurely discarded but, more importantly, for a renewed investigation of the nature and influence of the non-material and non-rational influences that are part of our lives.

Intuition and medicine

In recent centuries, the focus of medicine, the most human of all the sciences, has progressively shifted away from subjective human experience and turned increasingly towards objective signs and symptoms, and variables that can be controlled and limited. Fritjof Capra reflects on the consequences of this development:

Ever since Galileo, Descartes and Newton our culture has been so obsessed with rational knowledge, objectivity and quantification, that we have become very insecure in dealing with human values and human experience. In medicine, intuition and subjective knowledge are used by every good physician, but this is not acknowledged in the professional literature, nor is it taught in our medical schools. On the contrary, the criteria for admission to most medical schools screen out those who have the greatest talents for practicing medicine intuitively.⁸

Capra recognises that good medicine can still be practised not according to the book. The accessibility, sensitivity and humanity of the physician may be as important in the healing process as objective diagnosis and strict adherence to medication schedules. Capra notes that in the actual clinical practice of medicine, regardless of modality, neither subjective knowledge nor intuition are entirely overridden. Holistic medicine sits comfortably with such

considerations. Understanding the role of the patient's life-world, their emotional realities, their motivations and their limitations rests upon more than a knowledge of pathophysiology and access to high-tech diagnostics.

Capra also notes that gaining high scores in the hard sciences may not be the most appropriate basis for entry into the healing professions. Despite the fact that a number of medical schools have begun to incorporate elements of the liberal arts and humanities in their programs, biomedicine remains firmly grounded in scientific knowledge. The criteria for entry into medicine continue to turn upon one's performance in mathematics, chemistry and physics.

A naturopath reflects on the role of intuition in his own approach:

I see the boundaries of the paradigm from which medicine comes as being very narrow, very circumscribed. And I think the difference is that as natural therapists we have extended our horizons or our boundaries out a lot more, so that we are working perhaps on what we call intuitive levels, or using things that work in terms of clinical results. But we may not have actual explanations for them at this point in time.

For this practitioner the boundaries within which certainty has been painstakingly charted by scientific medicine can represent as much a source of limitation as of therapeutic power. He has an interest in influences that cannot be fully measured or quantified. These would include such notions as patient motivation and patient vitality. He speaks of working on intuitive levels, as well as making use of empirically effective strategies. This reflects an openness to therapeutic possibilities that transcend strictly pharmacological approaches to healing.

Changing paradigms

The influence of Cartesian dualism during the eighteenth and nineteenth centuries freed science from the problem of mind, and made matter (in the case of science) and the body in particular (in the case of medicine) the primary fields of investigation. The phenomenal world came to be understood through a study of its constituents. The mechanisms underlying the interactions and inter-relationships of those constituents were sought through experimentation, and interpreted through the prism of mathematical analysis.

Medical philosopher Lawrence Foss has observed that the principles of dualism, reductionism and determinism provided the basis for the explanatory strategies used in all scientific investigations. In the case of biomedicine,

the disciplines of physics, biochemistry and molecular biology represent the foundational elements from which there emerged a progressive understanding of pathophysiology, the study of disease processes.⁹

Lawrence Foss raises the conundrum presented by numerous research findings in medical literature supporting the notion that activities of the mind can have an effect on the health of the body. He cites a five-year research study that was terminated six months before it was due to be completed because it overwhelmingly confirmed the benefits of psychological counselling on the progression of coronary heart disease. Yet this and many other studies, as Fritjof Capra has said, have 'failed to have a significant influence on mainstream medical thinking'.¹⁰ Mind, human subjectivity and the nature of consciousness remain vast jousting grounds of conjecture.

The findings of such studies, together with the many 'anomalous' phenomena, including the placebo effect, that are associated with the healing process, cannot at present be satisfactorily accounted for by the paradigms underlying scientific medicine. The question of whether contemporary Western medicine adheres to a single paradigm or whether it is an aggregate of a number of differing paradigms is also fraught. One often hears of reductionist or holistic paradigms, materialist or energetic paradigms, and disease-oriented or health-oriented paradigms of medicine.

The term paradigm in itself may represent a further source of confusion. Social researcher Egon Guba comments:

It is not surprising that most persons asked to define the term paradigm are unable to offer any clear statement of its meaning. I say it is not surprising because Thomas Kuhn, the person most responsible for bringing that concept into our collective awareness, has himself used the term in no fewer than 21 different ways.¹¹

Guba himself has no problem with the ambiguity inherent in the term, as he believes that the concept remains useful precisely because of its indeterminate nature. Philosopher Carl Matheson offers his own reflection on the theme:

There is considerable disagreement over the proper interpretation of the word 'paradigm'. At one extreme is a very narrow interpretation according to which a paradigm consists of a set of exemplars . . . At the other extreme a paradigm consists of an entire theoretical worldview . . . According to a third reading, which is orthogonal to the others, a paradigm is a fundamentally sociological entity, individuated and constituted by patterns of education and alliances . . . It is best to choose a fairly wide sense of the term.¹²

Regardless of the difficulty in nailing a precise meaning of the term, it continues to be used widely in discussions related to the various models underlying different forms of medical practice. Thomas Kuhn, the philosopher of science who first coined the term in 1962, has described the process whereby the particular understandings that underlie a given discipline can undergo major or even revolutionary change:

The transition from a paradigm in crisis to a new one from which a new tradition of normal science can emerge is far from a cumulative process, one achieved by an articulation or extension of the old paradigm. Rather it is a reconstruction of the field from new fundamentals, a reconstruction that changes some of the field's most elementary theoretical generalizations as well as many of its paradigm methods and applications. During the transition period there will be a large but never complete overlap between the problems that can be solved by the old and the new paradigm . . . When the transition is complete, the profession will have changed its view of the field, its methods and the goals.¹³

This comment offers a useful means of interpreting the present difficulties confronting scientific medicine in relation to certain aspects of the phenomenon of healing, particularly those associated with mind–body healing. The problems are essentially paradigmatic, and reflect an essential inadequacy in the foundational elements underlying the practice of biomedicine. More holistic approaches to healing have, in recent times, contributed significantly to extending the ‘view of the field’ that may help to bring about a deeper understanding of realities that cannot presently be accommodated by the paradigms underlying scientific medicine.

Medicine and mind

The increasing community patronage of non-orthodox approaches to medicine during the latter half of the twentieth century presented a significant challenge to the cultural dominance of biomedicine. This challenge was at first largely dismissed. During the 1970s and 1980s, such developments began to be vigorously opposed in medical literature, and more broadly debated in political theatres and the media. More recently, however, a number of these approaches have been co-opted into the medical curriculum as units or programs in complementary or integrative medicine.

But the matter is not simply resolved by increasing the number of modalities that are considered acceptable, or by incorporating a few natural substances or unusual methods that have proven their efficacy, into the ways

of biomedicine. The growing utilisation of complementary medicine throughout the Western world points to a need to address more deeply such issues as the foundations of human nature, the adequacy of reductionist epistemologies and treatment methods, and the role and influence of mind in both health and disease.

Acupuncture represents more than the insertion of stainless steel needles into selected points in the body. It embodies a profoundly holistic philosophy that places us within a sea of energy with which we are in constant interaction. The various herbal medicine traditions are more than sources of such therapeutic agents as *Echinacea angustifolia* or *Ginkgo biloba*. They place us within the matrix of life itself, sharing at a fundamental level the same living energy that drives a seed to its eventual expression as fragrant flower or towering tree. Osteopathy is more than one of the many modalities of physical medicine. It is founded upon an understanding that the human organism has a powerful, innate capacity for self-healing that can be mobilised by structural correction.

One of the more regretful consequences of the Cartesian project was the separation of mind from matter. The world of matter, the *res extensa* of Descartes, became the domain of scientific investigation. The physical world was seen to be subject to laws and mechanisms that could be uncovered and elucidated through the methods of science. That world included living organisms. The forces that maintained life were believed to be linked to physical and chemical processes that would in time be sufficiently understood to provide a comprehensive explanation of life itself. The *res cogitans*, or the world of mind, provided the means whereby rational intelligence could be directed towards understanding the nature of the material world.

In more recent times, our thoughts, emotions and mental activity have come to be viewed as epiphenomena, or the complex consequences of chemical reactions occurring within the *res extensa* of the brain and the central nervous system. This notion has been clearly articulated by Arthur Kornberg, Nobel Laureate in medicine and one of the founders of genetic engineering:

Can we come as close to understanding the mind and human behavior as we have metabolism? The first and formidable hurdle is acceptance without reservation that the form and function of the brain and nervous system are simply chemistry. I am astonished that otherwise intelligent and informed people, including physicians, are reluctant to believe that mind, as part of life, is matter and only matter . . . Brain chemistry may be novel and very complex, but it is expressed in the familiar elements of carbon, nitrogen, oxygen and hydrogen, of phosphorus and sulphur that constitute the rest of the body.¹⁴

A practitioner of traditional Chinese medicine expresses his own unease at the notion that either mind or human behaviour can be fully encompassed by the laws of chemistry and the laws that govern the transformations of matter:

There has been a great silence in Western science about the things that we haven't been able to measure and quantify. And they are things like consciousness, awareness, the nature of being. And clearly people who are recognising and [are] aware of this great silence need to speak, and need to give people confidence to say: Yes. I am more than just my body.

This reminds us that the mystery of human nature encompasses more than the material domain. Materiality and rationality are only a part of the myriad influences that determine our lived experience. We can suffer as much through grief as we do from broken bones. Meaning resides as much in metaphor and symbol as in the identification and naming of disease processes. Although the fact of subjectivity may be a nuisance according to certain points of view, it nonetheless remains an integral part of human consciousness.

Not by bread alone

The reality of individual consciousness has not figured strongly in the biomedical paradigm. The elimination of subjectivity and the tethering of scientific endeavour to the 'objective' world, that part of the phenomenal world that can be observed and measured, has resulted in a neglect of much that gives individual human life its meaning. The model of the phenomenal world presented by Western science does not and cannot give the full picture. Economist and cultural reformer E.F. Schumacher offers a dose of wisdom:

Science cannot produce ideas by which we could live. Even the greatest ideas of science are nothing more than working hypotheses, useful for the purposes of special research but completely inapplicable to the conduct of our lives or the interpretation of the world.¹⁵

Social forces are neither visible nor measurable, yet they condition our lived experience. Psychological and emotional tendencies do not have readily identifiable biochemical or physiological markers yet they colour and often determine our experience of the world. The spiritual realities that provide guiding principles for many among humanity are only passingly referred to, if at all, in any serious discussion of influences on health and disease.

Human consciousness is a variable phenomenon influenced by heredity, nurture, learning, experience and a number of drugs, among other things. As

individuals, we often experience the same event in different ways. We may hear what we want to hear; we can have varying levels of understanding of the influence of childhood and adolescent experiences on the formation of our character or personality; our consciousness of even basic realities such as sound, taste or vision can vary from one person to another. And our consciousness of the more subtle dimensions related to energetic or spiritual reality is even more variable.

American nursing academic Dolores Krieger has introduced many within the nursing profession to an approach to healing that has become known as Therapeutic Touch. The term itself is a misnomer, for the technique does not involve any actual physical contact between practitioner and patient. This practice is based on an acceptance of the reality of a radiant or energetic body that substands and interpenetrates the physical body. Krieger developed her system of healing as a result of collaboration with Dora Kunz, an accomplished seer or visionary capable of perceiving the activity of luminous energies in and around the human body.¹⁶

Much of the healing that occurs in certain forms of shamanism, particularly those associated with the use of psychoactive drugs, is said to be mediated through the manipulation of luminous energies that become available to the shaman and often to fellow participants during healing rituals and ceremonies. Cultural anthropologist Terence McKenna reports on the role of luminous energies in certain shamanic rituals:

Shamans, under the influence of potent monoamine oxidase-inhibiting, harmine- and tryptamine-containing *Banisteriopsis* infusions, are said to produce a fluorescent violet substance by means of which they accomplish all their magic. Though invisible to ordinary perception, this fluid is said to be visible to anyone who has ingested the infusion.¹⁷

Religious traditions of most cultures speak of luminosity and radiance as qualities associated with the presence of spiritual energy. And many of those traditions associate that spiritual energy with a potential for healing both body and mind.

Biomedicine is of necessity, a thoroughly secular profession. This is a direct consequence of its foundational relationship with scientific method and its largely materialist orientation. Such a secular role is fully consistent with the pluralism that characterises Western society. But over and above their formal university training, many practitioners of biomedicine hold religious and spiritual beliefs. Some are regular church-goers or practitioners of meditation. Individual practitioners remain free to quietly work according to their own understanding of what is possible.

As the boundaries of what is considered acceptable progressively broaden, we may begin to witness an increase in interest in both the nature of such energies and their potential application for the purposes of healing.

Life force

Many within complementary medicine sit comfortably with such notions as *energy*, *vitality* and *spirit* and their influence in the work of healing. The notion of a life force is central to the understanding of many practitioners of naturopathic medicine. A naturopath offers his own reflection:

Life force I believe is innate in everyone. The Indians call it prana. We all have it, this vitality. Animal magnetism, other people call it. The ch'i, the Chinese call it. It's a force or a vitality that is partly, I believe, electromagnetic in nature. But it is expansive, it has the capacity to just grow and grow and to amplify. This can be turned up or turned down, like a dimmer on a light. By using the correct principles of living, I believe it can be amplified and turned up.

This comment reflects the inherent difficulty of dealing with experiences and concepts for which there is no common language. It is suggested here that the term life force points towards a phenomenon that has yet to be identified and investigated by medical science. This naturopath further suggests a close relationship between the state of the body and the quality of that life force. He believes that the human energy field can be made stronger by certain practices and 'by using the correct principles of living'.

Jan Smuts, who coined the term 'holism' in the 1920s, recognised early the difficulty of finding the right language to describe activities within living systems:

Body-and-soul is the model or scheme on which both thought and science are based. There is an *anima* dwelling in a *corpus*, one entity living in close symbiosis with another. As Descartes formulated it, there is the *res cogitans* in the *res extensa*; there are two distinct separate *res* or entities, and the difficulties and contradictions arise from their mutual assumed interaction.

The theory of Vitalism or the vital force seems simply to emphasise this dualism. But if we wish to overcome these difficulties and contradictions we have to probe more deeply than these popular views. We must get down to the tap-root from which the two apparent entities or substances have grown. The subject is most difficult and uncertain.¹⁸

Those difficulties and uncertainties continue into the present day.

An osteopath offers a serious-minded attempt to interpret the meaning of ch'i, a term used in traditional Chinese medicine to describe the energetic currents associated with living bodies:

Talking first of all about ch'i. It's not an it. It's a them. There is an enormous chemical soup and interchange of movement and heat and so on going through the body and all round the body in all sorts of different directions at all times, and to pick out the electrochemical or electromagnetic aspect of that or to pick out the circulation of endorphins or whatever and say, 'Oh, this is what we are talking about, that's what we're talking about.' No. The idea of ch'i is a metaphor, an abstraction and a simplification of a way of perceiving some currents that are going on in that chemical soup if you like. And it's not an it. It's a them. It's a simplification of many things into one to try and make sense.

This quote suggests that the term *ch'i* points towards the energetic dimension of changes that may occur on a physiological or biochemical level. In this sense, he is far closer to Smuts' perspective than the naturopath quoted earlier. He notes that elements within these electromagnetic fields may be associated with the neural and chemical activity that are integral to metabolism. Whether such energetic manifestations represent a unified dynamic that encodes information reflective of functional aspects of the body and its organ systems is, however, another story.

It is well understood that heat represents the physical expression of electromagnetic vibrations in the infra-red region of the electromagnetic spectrum. In a similar way, the electrochemical changes associated with the transmission of neurologic impulses throughout the nervous and sensory systems may create their own subtle fluctuations that are reflected in the bioenergetic field associated with our living bodies. There is clearly more to the picture than flesh and blood. But our osteopath reserves judgement regarding the various interpretations of the nature and significance of these energies. He continues:

Saying ch'i energy or saying chakras or saying meridians, or auras, or astral-bodies and so on, are simplifications, in order to try and make something explicable in a more concrete form when you perceive it, and to have a language of talking to other people about it. In another sense, they are actually metaphorical perceptions in that we are not ever perceiving the real.

This comment reflects the inherent difficulty of articulating the nature of perceptions that may vary between one individual and another.

The fact that widely diverse cultures have given linguistic expression to perceptions of energy through the use of such terms as ch'i, prana, chakras, meridians, spirit and auras points strongly towards their universality. The osteopath quoted above views these terms as metaphors for the intangible. With no common language, interpretation remains idiosyncratic. With no material substance, there is nothing to grasp and hold. The finger can only point to the moon.

A practitioner of Western herbal medicine offers his own view of the relevance of such considerations in the clinical setting:

I believe that there is an energy. But it's not something that I focus on. It's not something I will ever talk about, but I believe that there is an underlying factor there. I believe it takes many, many years of clinical exposure to start to understand it, let alone work with it. I feel that component is there but it's not something which I particularly focus on. I believe that as an individual practitioner, within an individual practitioner's model, it may have some importance. But I believe that its importance tends to be overrated. The knowledge is useful. But I don't believe that it's a very important aspect of it.

This herbalist acknowledges the existence of an energy that can be used for healing purposes, but is reluctant to discuss the matter further in the clinical context. There exists no scientifically acceptable paradigm or conceptual model that comfortably accommodates such possibilities. Nor is there a common language through which these ideas can be expressed. Yet this practitioner accepts that some practitioners can and do utilise such notions in their daily work.

As with our earlier quoted osteopath, such considerations are not central to his work as a clinician or as an educator. Nor can they be said to be central to the practice of holistic medicine. But an acceptance of the reality of such energies, that are nowhere addressed within the discourse of biomedicine, creates a certain tension between the principles that can be openly acknowledged as the basis of one's healing activities, and those that remain unspoken.

Beyond the margins

During the 1960s, American psychiatrist Shafica Karagulla conducted a series of depth interviews with individuals who exhibited what she called 'higher sense perception'. Dora Kunz, who provided much of the insight that enabled Dolores Krieger to develop the methods of therapeutic touch, was among her interviewees.

Karagulla also interviewed a number of medical practitioners as part of her study. Some spoke of perceiving energy fields in and around their patients' bodies; others of being able to relieve acutely ill patients by placing their hands over the affected areas. One practitioner claimed the ability to look directly into the body and observe the activity of its various organ systems in order to determine the presence or absence of pathology. Another formed her tentative diagnoses on the basis of the nature and quality of the energy fields she perceived around her patients. Most interestingly, all of these respondents tended to hold silence both with their patients and their peers regarding their abilities, preferring rather to use conventional diagnostic procedures in order to validate their own observations and intuitions:

Almost without exception they kept quiet about their unusual talents because they feared any mention of such things might hurt their professional standing. In most cases each had felt that perhaps he [or she] was alone and peculiar in this regard.¹⁹

Those interviewed were not part of the so-called lunatic fringe of alternative medicine, but were competent and fully qualified practitioners of biomedicine. And despite the fact that their own perceptions did not conform to what are considered normal or valid sources of knowledge from the scientific perspective, they continued to make use of their observations in their professional life. At a more personal level, however, the cost of inhabiting such a perceptual world contributed to a degree of alienation from their colleagues, and a loss of freedom to discuss among peers their own observations for fear of estrangement and possible ridicule.

One of the more interesting aspects of Karagulla's study is the fact that virtually every respondent offered a differing description of their observations. Such a situation represents a methodological nightmare in terms of generating a consistent and reproducible charting of the perceptual terrain inhabited by those able to directly perceive the subtle energetic currents associated with living processes. Karagulla's study represents an early entry into an area that has for too long been either denied, neglected or quietly pursued on an individual level.

Another naturopath furthers the discussion:

Within the naturopathic arena, there will be those whose frontier will continue to evolve. And so what I believe will happen in the future, is that natural therapists of whatever persuasion are going to go more and more into energy medicine. It's as if there is always a group within the natural medicine arena that remains the frontier band, even though some of the guard may be absorbed into [orthodox] medicine, if that makes sense. So

there will be those that really start to work purely at an energetic level. They'll basically just look at a person, be able to see energy imbalances, and from their own mind powers start to create changes.

This naturopath is not alone in his projections. American sociologist Meredith McGuire comments on similar ideas expressed by respondents in her own study of non-orthodox approaches to healing:

Many respondents felt that their alternative healing approaches were actually ahead of medical science. They were sure that when it gained the ability to tap such phenomena, medical science would vindicate most of these alternatives. They believed that science was only beginning to discover the truth of what their belief system had told them all along.²⁰

It is clear that there are many healers operating outside the framework of biomedicine who both accept the reality of an energetic dimension to human nature, and accept that certain individuals are capable of perceiving and interpreting such energies, and of intervening at a purely mental or volitional level. Such notions fall well beyond the boundaries of the current paradigms that inform biomedical understanding.

Medicine and energy

Material observations will respond to material interventions. An altered blood chemistry can be remedied by the use of material medicines, such as iron supplements for anaemia. But when one begins to speak in energetic rather than material terms, new possibilities begin to enter the picture.

A homoeopath respondent offers her own thoughts on the conceptual dilemma confronting practitioners who work from an energetic perspective:

I think that things like Kirlian photography are touching the edge of it. There is the work of Rupert Sheldrake who has talked about morphic fields and morphic resonance. I think he's at the forefront of the cutting edge of science. I think that it is going to come because to me it is so real that it has to. It's just that science, the paradigm that we have at the moment, doesn't incorporate these concepts or these understandings of subtler energies, subtler realms.

Neither homoeopaths nor acupuncturists are necessarily capable of directly perceiving energy fields associated with the body. Yet practitioners of each approach aim to bring about a primary corrective transformation in such subtle energies in patients. These approaches are based on a view of

living systems that is very different to that described by the biomedical paradigm.

The quote above mentions such recent developments as electrophotography, developed by Russian scientist Semyon Kirlian, and the challenging theories of Rupert Sheldrake as invitations for serious-minded investigations of these areas. Kirlian photography in many ways represents a technology whose day has perhaps come and gone too quickly. Yet much of the work done in the 1970s confirmed its potential usefulness as a research tool for the investigation of biological and intentional energies.

Apart from the sheer beauty of many of the images produced by the technique, Kirlian photography offers a means of creating images which confirm that *something* changes in such activities as deep meditation, spiritual healing and active visualisation. The nature of that something, however, remains elusive, as there are no commonly acceptable conceptual frameworks within which to accommodate such phenomena.

American researcher Kendall Johnson recorded a number of striking images of the effects of zen meditation practices and acupuncture on the electrophotographic image.²¹ Earle Lane has similarly recorded remarkable electrophotographic images of the effects of transcendental meditation and the use of high doses of Panax ginseng.²² And H.S. Dakin obtained extraordinarily challenging images while working with metal-bender Uri Geller in 1973 and with psychic healer John Scudder in 1974.²³ The ideas of Rupert Sheldrake appear similarly to have been shelved until we enter a climate more favourable to the scientific investigation of the numinous and elusive.²⁴

A naturopath quoted earlier identified 'the naturopathic arena' as fertile soil in which such notions can take root and find expression. Yet homoeopaths, acupuncturists and practitioners of therapeutic touch have long been cultivating similar soil. Another osteopath offers his own view of what may lie ahead:

I foresee in my lifetime that probably the orthodoxy of the day will have some of the things that we used to think of as being radically different. As old men we might stand around saying, 'Did you see that? I don't believe it! There's a professor of medicine on the television saying the patient's aura was disrupted around the tumour.' And they might develop that. Now you already see that. If you just watch the television carefully, you are already starting to see things like that occurring.

This osteopath sees the current limits of acceptable knowledge as pushing out rapidly. A professor of medicine is a high symbol of medical authority and accomplishment. This image is used here to project what is at present an uncharted and heretical diagnostic notion, the direct vision and interpretation

of the body's radiations. If such realities are truly part of the phenomenal world, they will sooner or later come to light. They are not and cannot be the exclusive domain of any one cultural or professional group. These realities will in time come to be investigated through the use of methods and technologies that perhaps have yet to be developed. Then will begin what Thomas Kuhn has termed 'the extraordinary investigations that lead the profession at last to a new set of commitments, a new basis for the practice of science'.²⁵

A deepening vision

It may be helpful to revisit the ideas of Swiss philosopher Jean Gebser in the difficult quest to understand the nature of perceptions that are not universally acknowledged as real or as valid. Consciousness itself is a variable phenomenon. Although it is intangible, ungraspable and unmeasurable, our individual consciousness determines to a large extent our sense of meaning, and our capacity for understanding.

Gebser holds that humanity as a whole is presently in the process of undergoing a major mutation of consciousness characterised by what he terms 'the concretion of the spiritual'. This unusual expression reflects an attempt by Gebser to counter the notion that spirit represents an abstraction, a linguistic metaphor similar to such terms as vitality, intelligence, soul or mind. For Gebser, as for many others, the term spirit signifies not so much an extra-mundane and incorporeal presence, but denotes rather a vibrant, coherent and increasingly visible energetic presence in the world:

The grand painful path of consciousness emergence, or, more appropriately, the unfolding and intensification of consciousness, manifests itself as an increasingly intense luminescence of spirit in man.²⁶

Gebser here suggests that the current debate regarding the very existence of an energetic dimension associated with living processes may be short-lived. At present, relatively few individuals appear to be capable of perceiving and reporting upon their experiences in regard to the subtle energies associated with living systems. Perhaps this has always been the case. But one does not need to look far to realise that such perceptions have been part of human experience throughout history. Five centuries ago, Paracelsus offered the following description of what he considered to be useful attributes for any who wish to take on the mantle of healing:

The physician should speak of that which is invisible. What is visible should belong to his knowledge, and he should recognise the illnesses just as

everybody else, who is not a physician, can recognise them by their symptoms. But this is far from making him a physician; he becomes a physician only when he knows that which is unnamed, invisible and immaterial, yet efficacious.²⁷

As we know, the development of medical science has resulted in a vast knowledge of the visible, and a near-perfect understanding of the relationship between the patient's symptoms and the diseases which they signify. But a deep knowledge of the unnamed, the invisible and the immaterial has yet to be attained.

The osteopath quoted earlier draws from his own experience and from popular culture to suggest that we can no longer evade what becomes increasingly obvious for increasing numbers of people. Regardless of its origins or its nature, the so-called aura is understood to be part of spiritual reality and is available to human consciousness. According to Gebser, the perception of spiritual energies becomes more widespread as humanity moves collectively towards an intensification in consciousness. A number of respondents suggest that this phenomenon (or, more correctly, *noumenon*) will come under increasing medical scrutiny as the boundaries of the acceptable begin to broaden. Our osteopath continues:

I don't think that everyone that's in alternative medicine is a more sensitive and loving person compared to anyone else, but they have definitely given time to develop those senses. Medicine and the healers of every tribe have always been sensitive to other things. And we know some people are sensitive to energies, some people to auras, lights, just inflections in voice, you know. You develop this, you can learn it.

The training of practitioners in many of the modalities of complementary medicine has traditionally tended to emphasise the humanistic dimensions of learning to a far greater extent than that which characterises undergraduate programs of biomedicine.

A humanistically oriented education will tend to encourage a more leisurely exploration of interior realities. This may help to sensitise practitioners to the subtler influences within life, be they related to lifestyle, relationships, emotions or spirituality. This of itself will further the development of a more holistic consciousness that will find its own expression in clinical practice. The quote above recognises sensitivity as a perennial attribute of many who aspire to the role of physician and healer. Our osteopath further raises the notion that through active training, one can consciously develop a heightened sensitivity to the subtle communications and energies that enable us to more readily participate in the life-world of others.

Such attributes need to be intrinsically valued before they can become part of the education and training of healers. The biomedical establishment remains largely sceptical of the reality of the energetic dimension that appears to be integral to many of the modalities of complementary medicine.

Between paradigms

There has always existed a strong tendency for powerful institutions to control both the thought and conduct of their members. This holds as strongly today as it did in dynastic Egypt and Renaissance Europe. Egyptian doctors were forbidden to depart from the established norms of treatment under fear of punishment. Giordano Bruno was burned alive for defending the notion that the earth moved around the sun. Galileo Galilei chose rather to bend and recanted, under threat of excommunication, his own observation that the earth truly moved around the sun. Thankfully, we live in more clement times.

Yet many who work within both medical orthodoxy and more particularly in the various modalities of complementary medicine continue to experience the opprobrium of a powerful institution, particularly if their philosophical viewpoints or treatment methods do not conform to the standards determined by the dominant system.

One of Thomas Kuhn's more valuable contributions has been his reminder that much of the scientific knowledge held as sacrosanct at any given time is in fact contingent and relative. The present form of biomedicine is itself a reflection of the philosophies, epistemologies and technologies that have developed in the Western world in recent centuries. It does not represent the omega point of the healing mission, but is more in the nature of a transient social, professional and institutional phenomenon with its own share of problems and contradictions.

The institution of biomedicine is strongly reflective of the science, philosophy and methods that have shaped it, and although immensely powerful and effective in certain areas of management and treatment, it remains but one of a number of possible approaches to the problem of human suffering borne of sickness and disease.

The growing confirmation of the influence of mind and spirit in human experience will continue to quietly push the boundaries that define the practice of contemporary scientific medicine. As attention turns towards the role of more subtle influences on our health and wellbeing through the development of new methods of research and new philosophies, the style of medicine as we know it in Western communities will inevitably change.

Glossary

Alchemy: The precursor to chemistry. Alchemy is based upon the notion that entities within the animal, vegetable and mineral kingdoms consist of body, soul and spirit. Its historical aims included the transmutation of metals and the preparation of medicines.

Arationality: Beyond, or outside of rationality. Arationality differs from irrationality in that it transcends rather than contradicts rational processes.

Arcana: A term often used by early chemists to describe the active principles hidden within matter.

Biomedicine: That form of medicine developed in the Western world over the past century which is based largely on the biological sciences. The term is used synonymously with 'Western medicine' and 'scientific medicine'.

Cartesian dualism: The philosophical position wherein matter and mind are viewed as separate entities. The concept was developed and popularised by the philosopher and mathematician René Descartes during the seventeenth century.

Chakra: The Sanskrit term for 'wheel'. In the yogic tradition, the term chakra is used to describe a number of energetic vortices or centres of spiritual power that are said to be located within the human body.

Ch'i: A Chinese term used to describe a bipolar energy said to circulate in the body through a series of meridians, or energetic conduits.

Colonic cleansing: A process whereby the contents of the large bowel are voided through the use of an enema or clyster. The method is popular among adherents of the hygienist tradition.

Consciousness: The faculty whereby one has awareness of both the inner world of thoughts, feelings and imagination, and the outer world of action, events and phenomena.

- Depth interview:** One of the methods of qualitative research that enables one to gain knowledge of the lived world of another. Depth interview techniques involve recording, transcription and analysis of focused discussions with a view to gaining a global impression of the concerns or understandings of individuals and of social groups.
- Doctrine of specific aetiology:** The theory that all diseases have a specific cause. This idea gained currency during the nineteenth century as a result of the development of bacteriology and the germ theory of disease. It was dramatically furthered by the development of endocrinology, and an understanding of the nature of diseases caused by hormone deficiency.
- Empathy:** The capacity to identify with the feelings and understandings of others. Through empathic engagement, one is able to participate in, and hence better understand, the lived experience of another.
- Empiricism:** An approach to knowledge based more upon observation and experiment than upon theoretical considerations. Empirical approaches ultimately rest on the experience of the senses rather than adherence to theory.
- Epidemiology:** The study of the incidence of disease and patterns of disease within human populations. Epidemiological studies are undertaken in order to understand both how diseases are transmitted through human groups, and in order to develop ways of controlling disease based on that understanding.
- Epistemology:** That branch of philosophy concerned with the nature of knowledge, the ways whereby knowledge of phenomena may be gained, and the basis for determining the validity of that knowledge.
- Explication:** The act of interpreting or detailing the various aspects or dimensions of a given phenomenon in order that its meaning may be better understood.
- Gestalt:** The German word for 'form' or 'shape'. The term is commonly used to describe a unified or integrated patterning or configuration that functions as a whole.
- Hegemony:** A term used to describe the dominance or undue influence of one particular group over other groups.
- Hieratic:** A term that describes priestly functions or sacred duties.
- Holism:** A philosophical position directed towards an understanding of wholes. The term, as used by its originator Jan Smuts in the early 1920s, incorporates the notion that the phenomenal world represents a unified expression of matter, mind and life. In relation to medicine, holism refers to an approach to treatment that is directed more towards the whole person than towards the disease or pathology with which they have been diagnosed.
- Humoral theory:** A traditional view of the influences that determine health and condition one's physical and mental tendencies. These influences were

early described in the European tradition as blood, phlegm, black bile and yellow bile. They were said to correspond with sanguine, phlegmatic, melancholic and choleric temperaments. The humoral theory of health and disease formed a significant part of the medicine of Galen in the third century and continued to remain active in European medical thinking for over one and a half thousand years. Both traditional Chinese medicine and Ayurvedic medicine continue to make use of similar concepts.

Hygienism: An approach to health that builds strongly on the purist metaphor. Hygienist approaches emphasise the importance of pure and unprocessed foods in the maintenance of health and the use of periodic fasts and dietary restriction to eliminate toxins from the body.

Inherent healing: The capacity of the body for self-repair.

Magic bullet: A highly specific therapeutic agent capable of destroying the specific cause or causes of disease. The term has often been applied to those antibiotic agents that selectively target specific micro-organisms or groups of micro-organisms.

Materia medica: The Latin term for 'medicinal materials'. The term is commonly used to describe the remedial agents used in the various systems of herbal medicine and in homoeopathy.

Meridian: A conduit through which vital energies are said to circulate through the body according to traditional Chinese medicine. The purpose of acupuncture treatment is to harmonise the quality and flow of those energies through the needling of particular points.

Moxibustion: A form of treatment in traditional Chinese medicine based on the stimulation of acupuncture points with heat generated by the burning of small cones or sticks of compressed herbs. Most commonly, *Artemisia sinensis* is used, though other plants or their extracts may be added.

New physics: The post-Newtonian system of physics based on the interchangeability of matter and energy, the unitary nature of space and time, and the interconnectedness of everything within the universe.

Osteopathic lesion: A term used in osteopathic medicine to describe joint dysfunction.

Paradigm: The term coined by science historian Thomas Kuhn to describe ways of seeing the world that characterise particular discipline areas.

Participant observation: A method of research in the human sciences that is based on unintrusive participation in the life-world of a particular social group.

Placebo: A substance or procedure with no therapeutic value that is often used as a control in the testing of new drugs or therapeutic procedures.

Potencies (homoeopathic): The term used to describe the various attenuations or dilutions of the substances used in homoeopathic medicine.

- Pragmatism:** The principle of practicality. Pragmatic approaches tend to be more concerned with the feasibility and consequences of actions as they relate to particular circumstances than with adherence to principles or ideals.
- Qualitative research:** Methods of investigation of the natural world that are based on the identification and interpretation of qualities associated with given phenomena. Qualitative research methods are most commonly used in the social sciences.
- Quantitative research:** Methods of investigation based upon measurement, quantification and statistical analysis.
- Reductionism:** A philosophical position that holds that complex systems can best be understood by isolating and identifying their constituent elements or components.
- Shamanism:** A traditional cultural system based on the notion that the world is infused with spiritual energy with which certain individuals can directly engage. Central to the practice of shamanism is the shaman, who acts as mediator between the spirit world and the human world. The shaman serves not only as carrier of the myths and stories of his or her people, but often serves as healer.
- Spirit:** A non-material energetic principle that is said to animate living matter. Spirit is also understood to be part of a reality that is independent of matter.
- Structural restriction:** An osteopathic term used to describe a state of limited mobility in one or several of the bony joints of the human body.
- Taoism:** A religious philosophy originating in China that holds the universe to be an interconnected reality. Taoism places a high value on attaining a state of harmony with both the natural world and with the Divine order, or Tao.
- Technocracy:** A term used to describe those who seek to exert social and political control through technology and technical expertise.
- Therapeutic touch:** A term coined by nursing educator Dolores Krieger for an approach to healing based on the intentional transference of therapeutic energy from one person to another.
- Trophorestoration:** A term used in the Western herbal medicine tradition that describes the physiological restoration of damaged organs or organ systems through the use of plant medicines.
- Vis medicatrix naturae:* Latin term for the healing power of nature.
- Vital force:** The energetic principle that is said to sustain life.
- Vitalism:** A philosophical position that holds that life is sustained by an active non-material force different to those forces mediated by the processes associated with biochemistry and physiology.

References

- Achterberg, J 1987, 'The Shaman: Master healer in the imaginary realm', in Shirley Nicholson (ed), *Shamanism: An expanded view of reality*, Theosophical Publishing House, Wheaton, Illinois.
- Alster, K 1989, *The Holistic Health Movement*, University of Alabama Press, Tuscaloosa.
- Bakx, K 1991, 'The "eclipse" of folk medicine in Western society', *Sociology of Health and Sickness*, vol. 13 (1), pp. 20–38.
- Balint, M 1964, *The Doctor, His Patient and the Illness*, 2nd edn, Pitman Medical, London.
- Barrett, B, Marchand, L et al 2004, 'What Complementary and Alternative Medicine Practitioners Say About Health and Health Care', *Annals of Family Medicine*, vol. 2, pp. 253–9.
- Baum, M 1989, 'Rationalism versus Irrationalism in the Care of the Sick: Science versus the absurd', *Medical Journal of Australia*, vol. 151, p. 607.
- Beecher, H 1966, 'Ethics and Clinical Research', *The New England Journal of Medicine*, vol. 274, 24, 1354–60.
- Bell, I, Caspi, O et al 2002, 'Integrative Medicine and Systemic Outcomes Research: Issues in the emergence of a new model for primary health care', *Archives of Internal Medicine*, vol. 162(2), pp. 133–40.
- Bensoussan, A 1999, 'Complementary medicine: where lies its appeal?', *Medical Journal of Australia*, vol. 170, 247–8.
- Berliner, H 1984, 'Scientific Medicine since Flexner', in J.W. Salmon (ed), *Alternative Medicines: Popular and policy perspectives*, Tavistock, New York.
- Berliner, H and Salmon, J 1980, 'The Holistic Alternative to Scientific Medicine: History and analysis', *International Journal of Health Services*, vol. 10, 1, 133–47.

- Berman, B 2001, 'Complementary medicine and medical education: teaching complementary medicine offers a way of making teaching more holistic', *BMJ*, vol. 322: 121–2.
- Berry, T 1991, *The Ecozoic Era* (Presented at 11th Annual E.F. Schumacher Lecture, October 1991, Great Barrington, Massachusetts). Viewed at <<http://www.schumachersociety.org/lec-tber.html>>
- 1995, *The University: Its response to the ecological crisis*, Paper delivered before the University Committee on Environment, Harvard University, 11 April 1996. Viewed at <<http://ecoethics.net/ops/univers.htm>>
- Bertell, R 1985, *No Immediate Danger: Prognosis for a radioactive earth*, The Women's Press, London.
- Blumenthal, M, Busse, WR, Goldberg, A et al (eds) 1998, *The Complete Commission E Monographs: Therapeutic guide to herbal medicines*, American Botanical Council, Austin.
- Boyers, R and Orrill, R 1972, *Laing and Anti-Psychiatry*, Penguin, Harmondsworth, United Kingdom.
- British Herbal Pharmacopeia* Parts 1–3 (1976–1981), British Herbal Medicine Association, Cowling, United Kingdom.
- Brooks, P 2004, 'Undergraduate Teaching of Complementary Medicine', *MJA*, vol. 181 (5), p. 275.
- Brown, ER 1979, *Rockefeller Medicine Men: Medicine and capitalism in America*, University of California Press, Berkeley.
- Calabrese, C 2002, 'Clinical Research in Naturopathic Medicine', in Jonas, W, Lewith, G and Walach, H, *Clinical Research in Complementary Therapies. Principles, Problems and Solutions*, Churchill Livingstone London.
- Capra, F 1982, *The Turning Point. Science, society and the rising culture*, Fontana edition, London.
- Carlson, R 1975, *The End of Medicine*, John Wiley and Sons, New York.
- Cassell, E 1976, *The Healer's Art*, MIT Press, Cambridge, Massachusetts.
- Center for Defence Information 2003, *CDI Factsheet: Ricin*, Washington DC. Cited at <<http://www.cdi.org/terrorism/ricin-pr.cfm>>
- Chojnowski, P, 'Descartes' Dream. From method to madness', *The Angelus*, XXV, no. 4, April 2002. Viewed at http://www.sspix.ca/Angelus/2002_May/Descartes.htm
- Cornaro, L 1903, *The Art of Living Long*, William F. Butler, Milwaukee.
- Coulter, I and Willis, E 2004, 'The rise and rise of complementary and alternative medicine: a sociological perspective', *MJA*, vol. 180 (11): 587–9.
- Council of Islamic Education, 'Contributions of Muslims to the Field of Medicine', pp. 177–86. Viewed at <www.cie.org/pdf/files/smpiren3.pdf>
- Dakin, HS 1975, *High Voltage Photography*, 2nd edn, H.S. Dakin, San Francisco.

- Dash, VB 1978, *Fundamentals of Ayurvedic Medicine*, Bansal and Co., Dehli.
- Dawson, WR 1929, *Magician and Leech: A study in the beginnings of medicine with special reference to ancient Egypt*, Methuen and Co., London.
- Debus, A 1978, *Man and Nature in the Renaissance*, Cambridge University Press, Cambridge.
- Di Stefano, V 1990, 'Towards Regeneration', *Australian Journal of Medical Herbalism*, vol. 2, 3, pp. 55–8
- 1994, 'Paracelsus: Light of Europe' (Parts I–3), *Australian Journal of Medicinal Herbalism*, vol. 6, 1, pp. 5–8.
- 1996, 'Of Spirochetes and Rainforests: The search for new drugs', *Journal of the Australian Traditional Medicine Society*, vol. 2, 4, pp. 89–93
- 1998, 'The Meaning of Natural Medicine: An interpretive study', M.H.Sc. thesis (unpublished), Department of Health Sciences, Victoria University, Melbourne.
- Dobbs, B 1975, *The Foundations of Newton's Alchemy: or, 'The Hunting of the Greene Lyon'*, Cambridge University Press, Cambridge.
- Dormann, T 2004, 'Colonics. Forbidden Medicine', *Townsend Letter for doctors and patients*. Viewed at <<http://www.townsendletter.com/July2004/colonics0704.htm>>
- Dossey, L 1982, *Space, Time and Medicine*, Shambhala, Boulder.
- 1993, *Healing Words: The power of prayer and the practice of medicine*, Harper Collins, San Francisco.
- Dubois, J 1952, *The Devil's Chemists*, Beacon Press, Boston.
- Dubos, R 1959, *Mirage of Health: Utopias, progress and biological change*, Anchor Books, New York.
- 1979, 'Hippocrates in Modern Dress', in Sobel, D (ed), *Ways of Health: Holistic approaches to ancient and contemporary medicine*, Harcourt, Brace, Jovanovich, New York pp. 205–20.
- Ehrenreich, J (ed) 1978, *The Cultural Crisis of Modern Medicine*, Monthly Review Press, New York.
- Encyclopaedia Britannica* 1927, *Holism and Science*.
- Fairbanks, A (ed. and trans.) 1898, *Empedocles. Fragments and Commentary*, Book I, verse 33, K. Paul, Trench, Trubner, London. Viewed at <<http://history.hanover.edu/texts/presoc/emp.htm>>
- Feuerstein, G 1987, *Structures of Consciousness: The genius of Jean Gebser. An introduction and critique*, Integral Publishing, Lower Lake, California.
- Foss, L 1989, 'A Challenge to Biomedicine: A Foundations Perspective', *Journal of Medicine and Philosophy*, vol. 14, pp. 165–91.
- Friedson, E 1988, *Profession of Medicine: A study of the sociology of applied knowledge*, Chicago Press, Chicago.
- Fulder, S 1988, *The Handbook of Complementary Medicine*, Oxford University Press, Oxford.

- Garrison, FH 1929, *An Introduction to the History of Medicine*, W.B. Saunders Co., Philadelphia.
- Gawler, I 1984, *You Can Conquer Cancer*, Hill of Content Publishing, Melbourne.
- Gebser, J 1949, *The Ever-Present Origin* (trans. Noel Barstad), Ohio University Press, Athens, Ohio.
- German, G 1987, 'The Traditional and the Modern in the Practice of Medicine', in Joske, R and Segal, W (eds), *Ways of Healing*, Penguin, Australia.
- Gerson, M 1958, *A Cancer Therapy: Results of fifty cases*, Totality Books, Del Mar, California.
- Ghalioungui, P 1963, *Magic and Medical Science in Ancient Egypt*, Hodder and Stoughton, London.
- Graham, H 1990, *Time, Energy and the Psychology of Healing*, Jessica Kingsley Publishers Ltd, London.
- Great Books Online, *Trotula of Salerno*. Viewed at <http://www.malaspina.com/site/person_1140.asp>
- Guba, E 1990, *The Paradigm Dialogue*, Sage Publications, Newbury Park, California.
- Harkness, J, Lederer, S and Wikler, D 2001, 'Laying ethical foundations for clinical research', *Bulletin of the World Health Organization*, 79 (4), 365–72.
- Hartmann, F 1973, *Paracelsus: Life and prophecies*, Rudolph Steiner Publications, New York.
- The Harvard Working Group on New and Resurgent Diseases 1995, 'New and Resurgent Diseases: The failure of attempted eradication', *The Ecologist*, vol. 25, no. 1, January/February, pp. 21–6.
- Hare, R 1970, *The Birth of Penicillin and the Disarming of Microbes*, George Allen and Unwin, London.
- Hasted, J 1981, *The Metal Benders*, Routledge and Kegan Paul, London.
- Henry, S (ed) 1941, *Four Treatises of Theophrastus von Hohenheim Called Paracelsus*, Johns Hopkins Press, Baltimore.
- Hopkins, N 2003, 'Four remanded on ricin terror charges as six more arrested', *The Guardian*, 14 January. Viewed at <<http://www.guardian.co.uk/Print/0,3858,4582797,00.html>>
- Illich, I 1976, *Limits to Medicine: Medical nemesis. The expropriation of health*, Marion Boyars, London.
- Jacobi, J 1951, *Paracelsus: Selected writings*, Routledge and Kegan Paul, London.
- Jensen, B 1981, *Tissue Cleansing Through Bowel Management*, Jensen, Escondido.
- Johnson, K 1975, *The Living Aura: Radiation field photography and the Kirlian effect*, Hawthorn Books, New York.
- Joske, R and Segal, W (eds) 1987, *Ways of Healing*, Penguin, Australia.
- Journal of the American Medical Association*, 'Alternative Medicine', vol. 280 (18), pp. 1549–640.
- Jung, C 1958, *The Undiscovered Self*, Routledge and Kegan Paul, London.

- 1963, *Memories, Dreams and Reflections*, Collins and Routledge and Kegan Paul, London.
- Kakar, S 1982, *Shamans, Mystics and Doctors: A psychological inquiry into India and its healing traditions*, University of Chicago Press, Chicago.
- Kaptchuk, T 2002, 'The Placebo Effect in Alternative Medicine: Can the performance of a healing ritual have clinical significance?', *Annals of Internal Medicine*, vol. 136, pp. 817–25.
- Karagulla, S 1967, *Breakthrough to Creativity*, De Vorss and Co., California.
- Kleinman, A 1984, 'Indigenous Systems of Healing: Questions for professional, popular, and folk care', in Salmon, JW (ed), *Alternative Medicines: Popular and policy perspectives*, Tavistock, New York.
- Kornberg, A 1987, 'The Two Cultures: Chemistry and Biology', *Biochemistry*, vol. 26, pp. 6888–891. Viewed at <http://www.uft.uni-bremen.de/chemie/isensee/kornberg_biochemistry.html>
- Krieger, D 1979, *The Therapeutic Touch: How to use your hands to help and heal*, Prentice Hall, Englewood Cliffs, New Jersey.
- Kuhn, T 1962, *The Structure of Scientific Revolutions*, University of Chicago Press, Chicago.
- Laing, RD 1960, *The Divided Self*, Tavistock, New York.
- 1961, *Self and Others*, Tavistock, New York.
- Laing, RD and Esterton, A 1964, *Sanity, Madness and the Family*, Tavistock, New York.
- Lane, E 1975, *Electrophotography*, And/Or Press, San Francisco.
- Lewith, G, Jonas, W and Walach, H 2002, *Clinical Research in Complementary Therapies: Principles, problems and solutions*, Churchill Livingstone, London.
- Lloyd, GE (ed) 1978, *Hippocratic Writings*, Penguin, London.
- Lyons, AS and Petrucelli, RJ 1987, *Medicine: An illustrated history*, Abradale Press, New York.
- Maizes, V and Caspi, O 1999, 'The principles and challenges of integrative medicine', *Western Journal of Medicine*, vol. 171, pp. 148–9.
- Maizes, V, Schneider, C, Bell, I and Weil, A 2002, 'Integrative Medical Education: Development and implementation of a comprehensive curriculum at the University of Arizona', *Academic Medicine*, vol. 77, 9, pp. 851–60.
- Marks, S 2000, *Jan Smuts, Race and the South African War*, SADOCC, Vienna. Viewed at <<http://www.sadocc.at/publ/marks.pdf>>
- Matheson, C 1996, 'Historicist Theories of Rationality', *Stanford Encyclopaedia of Philosophy*. Viewed at <<http://plato.stanford.edu/entries/rationality-historicist/>>
- May, R 1995, *The Art of Counselling*, Gardner Press, New York.
- McGuire, M 1988, *Ritual Healing in Suburban America*, Rutgers University Press, New Brunswick.
- McKenna, T and McKenna, D. 1975, *The Invisible Landscape*, Harper, San Francisco.

- McKeown, T 1976, *The Role of Medicine: Dream, mirage, or nemesis?*, Nuffield Provincial Hospitals Trust, London.
- McMichael, T 2002, 'The Biosphere, Health, and Sustainability' (editorial), *Science*, vol. 297, 16 August, p. 1093.
- McWhinney, I 2001, 'Being a General Practitioner: What it means', *Primary Care*, vol. 1, 309–16.
- Merton, T 1965, *Conjectures of a Guilty Bystander*, Sheldon Press, London.
- Moss, D 1989, 'Psychotherapy and Human Experience', in Halling, S and Valle, R, *Existential-Phenomenological Perspectives in Psychology: Exploring the breadth of human experience*, Plenum, New York.
- Mowrey, D 1986, *The Scientific Validation of Herbal Medicine*, Keats Publishing, Connecticut.
- 1988, *Next Generation Herbal Medicine*, Keats Publishing, Connecticut.
- Neville, B 1989, *Educating Psyche*, Collins Dove, Melbourne.
- 1993, 'Five Kinds of Empathy', Paper presented to the third International Conference on Client-centred and Experiential Psychotherapy, Gmunden, Austria.
- Newman, L 1999, 'Descartes' Epistemology, Section 7: Proving the existence of the external, material world', *Stanford Encyclopaedia of Philosophy*. Viewed at <<http://www.plato.stanford.edu/entries/descartes-epistemology/>>
- Nicholson, S (ed) 1987, *Shamanism: An expanded view of reality*, Theosophical Publishing House, Wheaton, Illinois.
- Pachter, H 1961, *Paracelsus: Magic into science*, Collier, New York.
- Pagel, W 1958, *Paracelsus: An introduction to philosophical medicine in the era of the Renaissance*, S. Karger, Basel.
- Pappworth, M 1967, *Human Guinea Pigs: Experimentation on man*, Routledge and Kegan Paul, London.
- Pellegrino, E 1979, 'The Sociocultural Impact of Twentieth Century Therapeutics', in Rosenberg, E and Vogel, MD 1979, *The Therapeutic Revolution*, University of Pennsylvania Press, Philadelphia.
- 1989, 'Towards an Expanded Medical Ethics: The Hippocratic ethic revisited', in Veach, R (ed), *Cross Cultural Perspectives in Medical Ethics: Readings*, Jones and Bartlett, Boston, p. 32.
- Pelletier, K 1994, *Sound Mind, Sound Body: A new model for lifelong health*, Simon and Schuster, New York.
- Peters, D (ed) 2001, *Understanding the Placebo Effect in Complementary Medicine*, Churchill Livingstone, London.
- Pirotta, M, Cohen, M, Kitsirilos, V and Farish, S 2000, 'Complementary therapies: Have they become accepted in general practice?', *Medical Journal of Australia*, vol. 172, pp. 105–9.
- Porkert, M 1979, 'Chinese Medicine: A traditional healing science', in

- Sobel, D, *Ways of Health: Holistic approaches to ancient and contemporary medicine*, Harcourt, Brace, Jovanovich, New York.
- Rees, L and Weil, A 2001, 'Integrated medicine', *British Medical Journal*, vol. 322, pp. 119–20.
- Reilly, D 2001, 'Some Reflections on Creating Therapeutic Consultations', in Peters, D (ed) 2001, *Understanding the Placebo Effect in Complementary Medicine*, Churchill Livingstone, London.
- Remen, RN 1996, *Kitchen Table Wisdom: Stories that heal*, Pan Macmillan, Australia.
- Renaud, M 1978, 'On the Structural Constraints to State Intervention in Health', in Ehrenreich, J (ed) 1978, *The Cultural Crisis of Modern Medicine*, Monthly Review Press, New York.
- Riddle, M 1985, *Dioscorides on Pharmacy and Medicine*, University of Texas Press Austin.
- Riva, A, *The History of Medicine*. Viewed at <<http://pacs.unica.it/biblio/tocs.htm>>
- Robson, T (ed) 2003, *An Introduction to Complementary Medicine*, Allen & Unwin, Sydney.
- Saks, M 2003, *Orthodox and Alternative Medicine: Politics, professionalization and health care*, Continuum Publishing Ltd, London.
- Salmon, JW (ed) 1984, *Alternative Medicines: Popular and policy perspectives*, Tavistock, New York.
- Schumacher, EF 1974, *Small is Beautiful: A study of economics as if people mattered*, Abacus, London.
- Segal, W 1987, 'Naturopathy, Homeopathy and Herbalism', in Joske, R and Segal, W, *Ways of Healing*, Penguin, Melbourne, pp. 83–115.
- Senfelder, L 1911, *A History of Medicine in the West*. Viewed at <<http://www.newadvent.org/cathen/10122a.htm>>
- Sheldrake, R 1988, *The Presence of the Past: Morphic resonance and the habits of nature*, Collins, London.
- Siegel, R 1968, *Galen's System of Physiology and Medicine*, S. Karger, Basel.
- Sigerist, H (ed) 1941, *Four Treatises of Theophrastus von Hohenheim Called Paracelsus*, Johns Hopkins Press, Baltimore.
- Silverman, B 2002, 'Monastic Medicine: A unique dualism between natural science and spiritual healing', *Harvard University Research Journal*, 1, 10–17. Viewed at <www.jhu.edu/hurj/issue1/Silverman_monasticMed/Silverman_monasticMed.pdf>
- Singer, C and Underwood, EA 1962, *A Short History of Medicine*, Oxford University Press, Oxford.
- Sivananda, S 1952, *Practice of Nature Cure*, Vigyan Press, Rishikesh.
- Smith, R 2004, 'Foregone Conclusions: The public is being regularly deceived by the drug trials funded by pharmaceutical companies, loaded

- to generate the results they need', *The Guardian*, 14 January. Viewed at <<http://www.guardian.co.uk/medicine/story/0,11381,1122721,00.html>>
- Smuts, J 1925, *Holism and Evolution*, Reprinted 1999, Sierra Sunrise Books, California (ed Sanford Holst).
- Sobel, D (ed) 1979, *Ways of Health: Holistic approaches to ancient and contemporary medicine*, Harcourt, Brace, Jovanovich, New York.
- Stacey, M 1988, *The Sociology of Health and Sickness*, Unwin, Hyman Ltd, London.
- Starr, P 1949, *The Social Transformation of American Medicine*, Basic Books, New York.
- Stein, H 1985, *The Psychodynamics of Medical Practice: Unconscious factors in patient care*, University of California Press, Berkeley.
- Still, AT 1897, *Autobiography*, Kirksville. Repr. Maidstone Osteopathic Clinic, Maidstone.
- Strauss, A and Corbin, J 1988, *Shaping a New Health Care System*, Jossey-Bass Inc., San Francisco.
- Strehlow, W and Hertzka, G 1988, *Hildegard of Bingen's Medicine* (trans. Karin Strehlow), Bear and Co., Santa Fe.
- Szasz, T 1961, *The Myth of Mental Illness* (revised edn, 1974), Harper and Row, New York.
- Szasz, T and Hollander, M 1956, 'A Contribution to the Philosophy of Medicine: the Basic Models of the Doctor–Patient Relationship', *AMA Archives of Internal Medicine*, vol. 97, pp. 585–92.
- Szekely, EB 1981, *The Essene Gospel of Peace: Book 1*, I.B.S. International, San Diego.
- Taylor, R 1979, *Medicine Out of Control: The anatomy of a malignant technology*, Sun Books, Melbourne.
- Thakkur, CJ 1974, *Ayurveda: The Indian art and science of medicine*, ASI Publishers, New York.
- Toynbee, A 1976, *Mankind and Mother Earth*, Oxford University Press, Oxford.
- Union of Concerned Scientists 1992, *World Scientists' Warning to Humanity*. Viewed at <<http://www.ucsusa.org/ucs/about/page.cfm?pageID=1009>>
- Valle, R and Halling, S 1989, *Existential-Phenomenological Perspectives in Psychology: Exploring the breadth of human experience*, Plenum, New York.
- Vincent, C and Furnham, A 1996, 'Why do patients turn to complementary medicine? An empirical study', *British Journal of Clinical Psychology*, vol. 35, pp. 37–48.
- Vogel, MD and Rosenberg, CE 1979, *The Therapeutic Revolution*, University of Pennsylvania Press, Philadelphia.
- Waite, AE 1894, *The Hermetic and Alchemical Writings of Paracelsus (Volumes I and II)*, Reprinted. 1976, Shambhala, Berkeley.
- Wallach, H, Jonas, W and Lewith, G 2002, 'The Role of Outcomes Research

- in Evaluating Complementary Medicine', *Alternative Therapies*, vol. 8, 3, pp. 88–95.
- Ward, B and Dubos, R 1972, *Only One Earth: The care and maintenance of a small planet*, W.W. Norton and Co., New York.
- Wetzel, M, Eisenberg, D and Kaptchuk, T 1988, 'Courses Involving Complementary and Alternative Medicine at US Medical Schools', *Journal of the American Medical Association*, vol. 280, pp. 784–7.
- Wetzel, M, Kaptchuk, T, Haramati, A and Eisenberg, D 2003, 'Complementary and Alternative Medical Therapies: Implications for medical education', *Annals of Internal Medicine*, vol. 138, 3, pp. 191–6.
- Wilcox, B, Aguirre, A et al 2004, 'EcoHealth: A transdisciplinary imperative for a sustainable future' (Editorial), *EcoHealth*, vol. 1, pp. 3–5.
- Withington, ET 1894, *Medical History from the Early Times*, Reprinted 1964 The Holland Press, London.
- Zollman, C and Vickers, A 1999, 'ABC of Complementary Medicine: What is complementary medicine?', *British Medical Journal*, vol. 319, pp. 693–6.

Notes

Introduction

1. G Allen German, 'The Traditional and the Modern in the Practice of Medicine', in R Joske and W Segal (eds), *Ways of Healing*, pp. 13–28.
2. Arthur Kleinman, 'Indigenous Systems of Healing: Questions for professional, popular, and folk care', in JW Salmon (ed), *Alternative Medicines: Popular and policy perspectives*, p. 156.
3. Paul Starr, *The Social Transformation of American Medicine*, pp. 110–24; Margaret Stacey, *The Sociology of Health and Sickness*, pp. 76–99.
4. Jan Christian Smuts, *Holism and Evolution*.
5. 'Holism and Science', *Encyclopaedia Britannica*.
6. Jan Smuts, op. cit., pp. 150–7, 311–39.
7. Shula Marks, *Jan Smuts, Race and the South African War*, SADOCC, Vienna. Viewed at <<http://www.sadocc.at/publ/marks.pdf>>
8. Joe Pizzorno, 'Foreword' (p. x) in Terry Robson (ed), *An Introduction to Complementary Medicine*.
9. Victoria Maizes and Opher Caspi, 'The principles and challenges of integrative medicine', *West. J. Med.*, 1999, vol. 171, pp. 148–9; Lesley Rees and Andrew Weil, 'Integrated medicine', *BMJ*, 2001, vol. 322, pp. 119–20.
10. Miriam Wetzell, David Eisenberg, Ted Kaptchuk, 'Courses Involving Complementary and Alternative Medicine at US Medical Schools', *JAMA*, 1998, vol. 280, pp. 784–7; Marie Pirota, Marc Cohen, Vicki Kotsirilos and Stephen Farish, 'Complementary therapies: Have they

- become accepted in general practice?', *MJA*, 2000, vol. 172, pp. 105–9; Brian Berman, 'Complementary medicine and medical education: teaching complementary medicine offers a way of making teaching more holistic', *BMJ*, 2001, vol. 322, pp. 121–2.
11. Keith Bakx, 'The "eclipse" of folk medicine in Western society', *Sociology of Health and Sickness*, 1991, vol. 13 (1), pp. 20–38; Charles Vincent and Adrian Furnham, 'Why do patients turn to complementary medicine? An empirical study', *Br. J. Clin. Psychol.*, 1996, vol. 35, pp. 37–48; Bruce Barrett, Lucille Marchand et al, 'What Complementary and Alternative Medicine Practitioners say About Health and Health Care', *Annals of Family Medicine*, 2004, vol. 2, pp. 253–9.
 12. Alan Bensoussan, 'Complementary medicine: where lies its appeal?', *MJA*, 1999, vol. 170, pp. 247–8; Ian Coulter and Evan Willis, 'The rise and rise of complementary and alternative medicine: a sociological perspective', *MJA*, 2004, vol. 180 (11), pp. 587–9.
 13. Vincent Di Stefano 1998, 'The Meaning of Natural Medicine: An interpretive study', M.H.Sc. thesis (unpublished).
 14. Bernie Neville 1993, *Five Kinds of Empathy*, Paper presented to the third International Conference on Client-centred and Experiential Psychotherapy', Gmunden, Austria, September 1994. See also his *Educating Psyche*.

Chapter I

1. David Sobel, 'Ancient Systems of Medicine', in David Sobel, *Ways of Health: Holistic approaches to ancient and contemporary medicine*, p. 107.
2. Eric Cassell, *The Healer's Art*, p. 222.
3. Paul Ghalioungui 1963, *Magic and Medical Science in Ancient Egypt*, pp. 41–3.
4. *Ibid.*, pp. 70–3.
5. Quoted in Fielding H Garrison, *An Introduction to the History of Medicine*, p. 58.
6. Edmund Bordeaux Szekely, *The Essene Gospel of Peace: Book 1*, I.B.S. International; Sivananda, S, *Practice of Nature Cure*, Vigyan Press, Rishikesh; Thakkur, CJ, *Ayurveda: The Indian art and science of medicine*.
7. Bernard Jensen, *Tissue Cleansing Through Bowel Management*; Max Gerson, *A Cancer Therapy. Results of Fifty Cases*; see also Thomas Dorman, 'Colonics. Forbidden Medicine', *Townsend Letter for Doctors and Patients*. Viewed at <<http://www.townsendletter.com/July2004/colonics0704.htm>>
8. Warren R Dawson, *Magician and Leech: A study in the beginnings of medicine with special reference to ancient Egypt*, pp. 102–8.
9. *Ibid.*, p. 116.

10. Nick Hopkins, 'Four remanded on ricin terror charges as six more arrested', *The Guardian*, 14 January 2003. Viewed at <<http://www.guardian.co.uk/Print/0,3858,4582797,00.html>>
11. Center for Defense Information 2003, *CDI Factsheet: Ricin*, Washington DC. Viewed at <<http://www.cdi.org/terrorism/ricin-pr.cfm>>
12. Quoted in Edward T Withington, *Medical History from the Early Times*, p. 46.
13. Diodorus Siculus, quoted in Paul Ghalioungui, op. cit., p. 107–8.
14. Arthur Fairbanks, *Empedocles. Fragments and Commentary*.
15. Quoted in Edward T Withington, op. cit., p. 54.
16. GE Lloyd, *Hippocratic Writings*. See 'Tradition in Medicine', pp. 70–86; 'Aphorisms', section IV, pp. 216–17.

Chapter 2

1. Walter Pagel, *Paracelsus: An Introduction to Philosophical Medicine in the Era of the Renaissance*, p. 144.
2. Fielding Garrison, *An Introduction to the History of Medicine*, p. 7.
3. John M. Riddle, *Dioscorides on Pharmacy and Medicine*, pp. 3–5.
4. *Ibid.*, p. xvii.
5. Rudolph Siegel, *Galen's System of Physiology and Medicine*, p. 12.
6. Alessandro Riva, *The History of Medicine*.
7. AS Lyons, and RJ Petrucelli, *Medicine: An illustrated history*.
8. Leopold Senfelder, *A History of Medicine in the West*, p. 6.
9. Great Books Online, *Trotula of Salerno*.
10. Allen Debus, *Man and Nature in the Renaissance*, pp. 63–4; see also Leopold Senfelder, op. cit., p. 21.
11. Allen Debus, op. cit., p. 10.
12. Henry Pachter, *Paracelsus: Magic into science*, p. 57.
13. *Ibid.*, p. 123.
14. Jolande Jacobi, *Paracelsus: Selected writings*, p. liii.
15. *Ibid.*, p. lv.
16. Henry Pachter, op. cit., p. 186.
17. See Benjamin Silverman, 'Monastic Medicine: A unique dualism between natural science and spiritual healing'. See also Wighard Strehlow and Gottfried Hertzka, *Hildegard of Bingen's Medicine*.

Chapter 3

1. Elliott Friedson, *Profession of Medicine: A study of the sociology of applied knowledge*, p. 5.

2. Mike Saks, *Orthodox and Alternative Medicine: Politics, professionalization and health care*, p. 6.
3. Paul Starr, *The Social Transformation of American Medicine*, p. 42.
4. Howard Berliner and J Warren Salmon, 'The Holistic Alternative to Scientific Medicine: History and analysis', *International Journal of Health Services*, 1980, vol. 10, 1, 133–47, pp. 136–9. See also Leopold Senfelder, *A History of Medicine in the West*, pp. 32–9.
5. Margaret Stacey, *The Sociology of Health and Healing*, pp. 54–7.
6. Paul Starr, op. cit., p. 120.
7. ER Brown, *Rockefeller Medicine Men: Medicine and capitalism in America*, p. 192.
8. Paul Starr, op. cit., p. 7.
9. ER Brown, op. cit., pp. 84–91.
10. Ibid., p. 153.
11. Paul Starr, op. cit., p. 123.
12. ER Brown, op. cit., p. 193.
13. Howard Berliner, 'Scientific Medicine since Flexner', in JW Salmon (ed), *Alternative Medicines: Popular and policy perspectives*, p. 35.
14. For an account of the less savoury activities of IG Farben under Hitler's regime during the 1940s, see Josiah Dubois, *The Devil's Chemists*.
15. R Hare, *The Birth of Penicillin and the Disarming of Microbes*, p. 147.
16. Anselm Strauss and Juliet Corbin, *Shaping a New Health Care System*; see also Max Gerson, *A Cancer Therapy: Results of fifty cases*, pp. 167–85.
17. The Harvard Working Group on New and Resurgent Diseases, 'New and Resurgent Diseases: The failure of attempted eradication', *The Ecologist*, vol. 25, no. 1, January/February 1995, 21–26, p. 26.
18. Rene Dubos, *Mirage of Health: Utopias, progress and biological change*, p. 104.
19. Rene Dubos, in David Sobel, op. cit., pp. xii–xiii.
20. Ibid., pp. ix–x.
21. Maurice Pappworth, *Human Guinea Pigs: Experimentation on man*, pp. 221–2.
22. Ibid., p. 278.
23. J Harkness, S Lederer and D Wikler, 'Laying ethical foundations for clinical research', *Bulletin of the World Health Organization*, 2001, 79(4), 365–72, p. 365.
24. H Beecher, 'Ethics and Clinical Research', *The New England Journal of Medicine*, 1966, 274, 24, 1354–60, p. 1355. (Article reproduced in full in J Harkness et al, op. cit.)
25. Rick Carlson, *The End of Medicine*, pp. 210–11.
26. Ivan Illich, *Limits to Medicine: Medical nemesis. The expropriation of health*, pp. 135–6.
27. Richard Taylor, *Medicine Out of Control: The anatomy of a malignant technology*, p. 196.
28. Ibid., p. 237.

29. John Ehrenreich (ed), *The Cultural Crisis of Modern Medicine*, pp. 22–3.
30. Rick Carlson, op. cit., pp. 71–2.
31. Mike Saks, op. cit., p. 117.
32. Ian Gawler, *You Can Conquer Cancer*.
33. Michael Baum, 'Rationalism versus Irrationalism in the Care of the Sick: Science Versus the Absurd', *Medical Journal of Australia*, 1989, vol. 151, p. 607.
34. Edmund Pellegrino, 'The Sociocultural Impact of Twentieth Century Therapeutics', in Morris D Vogel and Charles E Rosenberg, *The Therapeutic Revolution*, p. 262.
35. Ibid., p. 264.
36. Larry Dossey, *Space, Time and Medicine*.
37. Larry Dossey, *Healing Words: The power of prayer and the practice of medicine*.
38. Kenneth Pelletier, *Sound Mind, Sound Body: A new model for lifelong health*.
39. Quoted in Franz Hartmann, *Paracelsus: Life and Prophecies*, p. 110.

Chapter 4

- I. Rene Dubos, 'Preface' in David Sobel, *Ways of Health: Holistic approaches to ancient and contemporary medicine*, p. x.
2. Max Gerson, *A Cancer Therapy: Results of fifty cases*, p. 13.
3. Thomas McKeown, *The Role of Medicine: Dream, mirage, or nemesis?*, p. 6.
4. Helen Graham, *Time, Energy and the Psychology of Healing*, p. 28.
5. Andrew Taylor Still, *Autobiography*.
6. Rick Carlson, *The End of Medicine*, p. 210.
7. Marc Renaud, 'On the Structural Constraints to State Intervention in Health', in John Ehrenreich (ed), *The Cultural Crisis of Modern Medicine*, p. 108.
8. Thomas Kuhn, *The Structure of Scientific Revolutions*, p. 167.
9. Rachel Naomi Remen, *Kitchen Table Wisdom: Stories that heal*, p. 62.
10. Miriam Wetzal, Ted Kaptchuk, Aviad Haramati and David Eisenberg, 'Complementary and Alternative Medical Therapies: Implications for medical education', *Annals of Internal Medicine*, 2003, vol. 138, 3, 191–6; Victoria Maizes, Craig Schneider, Iris Bell and Andrew Weil, 'Integrative Medical Education: Development and Implementation of a Comprehensive Curriculum at the University of Arizona', *Academic Medicine*, 2002, vol. 77, 9, 851–60; Peter Brooks, 'Undergraduate Teaching of Complementary Medicine', *Medical Journal of Australia*, 2004, vol. 181 (5), p. 275.
11. Rick Carlson, *The End of Medicine*, p. 150; Ivan Illich, *Limits to Medicine: Medical nemesis. The expropriation of health*, pp. 255–6.
12. Helen Graham, op. cit., pp. 67–8.
13. Fritjof Capra, *The Turning Point: Science, society and the rising culture*, pp. 335–6.

14. Sudhir Kakar, *Shamans, Mystics and Doctors: A psychological inquiry into India and its healing traditions*, p. 31.

Chapter 5

1. Rosemary Taylor, 'Alternative Medicine and the Medical Encounter in Britain and the United States', in JW Salmon (ed), *Alternative Medicines: Popular and policy perspectives*, p. 205.
2. Eric Cassell, *The Healer's Art*, p. 114.
3. Ibid., p. 56.
4. Edmund Pellegrino, 'Towards an Expanded Medical Ethics: The Hippocratic Ethic Revisited', in Robert Veatch (ed), *Cross Cultural Perspectives in Medical Ethics: Readings*, p. 32.
5. Michael Balint, *The Doctor, His Patient and the Illness*, p. 39.
6. Eric Cassell, op. cit., p. 48.
7. Thomas Szasz, *The Myth of Mental Illness*.
8. Carl Jung, *The Undiscovered Self*; see also his *Memories, Dreams and Reflections*.
9. See RD Laing, *The Divided Self, Self and Others* and RD Laing and Aaron Esterton, *Sanity, Madness and the Family*. An informative overview of Laing and his group's activities with both supportive and critical commentaries is available through Robert Boyers and Robert Orrill's edited anthology *Laing and Anti-Psychiatry*.
10. Thomas Szasz and Marc Hollander, 'A Contribution to the Philosophy of Medicine: The basic models of the doctor-patient relationship', *AMA Archives of Internal Medicine*, 1956, vol. 97, pp. 585-92.
11. Ibid., p. 586.
12. Ibid., p. 587.
13. Eric Cassell, op. cit., p. 141.
14. Howard Stein, *The Psychodynamics of Medical Practice: Unconscious factors in patient care*, p. 58.
15. Thomas Szasz and Marc Hollander, op. cit., p. 588.
16. Ian McWhinney, *Being a General Practitioner: What it means*, p. 315.
17. Michael Balint, op. cit., p. 121.
18. Eric Cassell, op. cit., pp. 137-38.
19. Ibid., p. 74.
20. Rollo May, *The Art of Counselling*, p. 63.
21. Michael Balint, op. cit., pp. 107-8.
22. Eric Cassell, op. cit., p. 67.
23. Ibid., p. x.

Chapter 6

1. Thomas McKeown, *The Role of Medicine: Dream, mirage, or nemesis?*, p. xiv.
2. Fritjof Capra, *The Turning Point: Science, society and the rising culture*, p. 365.
3. Richard Taylor, *Medicine Out of Control: The anatomy of a malignant technology*, p. 39.
4. Quoted in Henry Sigerist (ed), *Four Treatises of Theophrastus von Hohenheim, Called Paracelsus*, p. 38.
5. Donald Moss, 'Psychotherapy and Human Experience', in Ronald Valle and Steen Halling, *Existential-Phenomenological Perspectives in Psychology: Exploring the breadth of human experience*, pp. 194–5.
6. Fritjof Capra, op. cit., p. 361.
7. Meredith McGuire, *Ritual Healing in Suburban America*, p. 235.
8. Helen Graham, *Time, Energy and the Psychology of Healing*, p. 19.
9. Jeanne Achterberg, 'The Shaman: Master Healer in the Imaginary Realm', in Shirley Nicholson (ed), *Shamanism: An expanded view of reality*, pp. 103–24.
10. Rene Dubos, *Mirage of Health: Utopias, progress and biological change*, p. 118.
11. Ivan Illich, *Limits to Medicine: Medical nemesis: The expropriation of health*, p. 61.
12. Paul Ghalioungui, *Magic and Medical Science in Ancient Egypt*, pp. 149–53.
13. Edmund Bordeaux Szekely, *The Essene Gospel of Peace: Book 1*.
14. Bernard Jensen, *Tissue Cleansing through Bowel Management*; Max Gerson, *A Cancer Therapy: Results of fifty cases*.
15. VB Dash, *Fundamentals of Ayurvedic Medicine*.
16. Vincent Di Stefano, 'Towards Regeneration', *Australian Journal of Medical Herbalism*, vol. 2, 3, 1990, pp. 55–8.
17. Wolfe Segal, 'Naturopathy, Homeopathy and Herbalism', in Richard Joske and Wolfe Segal, *Ways of Healing*, pp. 83–115.
18. Richard Taylor, op. cit., p. 22.
19. Kenneth Pelletier, *Sound Mind, Sound Body: A new model for lifelong health*, p. 25.
20. Meredith McGuire, op. cit., pp. 32–3.

Chapter 7

1. Jean Gebser, *The Ever-Present Origin*, p. 542.
2. Georg Feuerstein, *Structures of Consciousness: The genius of Jean Gebser. An introduction and critique*, p. 119.
3. See Peter Chojnowski, 'Descartes' Dream: From method to madness', *The Angelus*, XXV, no. 4, April 2002.
4. Lex Newman, 'Descartes' Epistemology', Section 7: 'Proving the existence of the external, material world'.

5. Betty Dobbs, *The Foundations of Newton's Alchemy: or, 'The Hunting of the Greene Lyon'*, p. 6.
6. Fielding H Garrison, *An Introduction to the History of Medicine*, p. 21.
7. Larry Dossey, *Time, Space and Medicine*, pp. 3–6.
8. Fritjof Capra, *The Turning Point: Science, society and the rising culture*, p. 350.
9. Lawrence Foss, 'A Challenge to Biomedicine: A foundations perspective', *Journal of Medicine and Philosophy*, vol. 14, pp. 168–9.
10. Ibid., p. 171.
11. Egon Guba, *The Paradigm Dialogue*, p. 17.
12. Carl Matheson, 'Historicist Theories of Rationality'.
13. Thomas Kuhn, *The Structure of Scientific Revolutions*, p. 84.
14. Arthur Kornberg, 'The Two Cultures: Chemistry and Biology', *Biochemistry*, 1987, vol. 26, pp. 6888–91. This article is adapted from Kornberg's Plenary Address to the American Association for the Advancement of Science given in February 1987.
15. EF Schumacher, *Small is Beautiful: A study of economics as if people mattered*, p. 85.
16. Psychiatrist Shafica Karagulla offers an in-depth portrayal of the perceptual world of Dora Kunz, to whom she gives the pseudonym Diane, in her study of various forms of clairvoyant perception *Breakthrough to Creativity*. See particularly pp. 124–61; see also Dolores Krieger, *The Therapeutic Touch: How to use your hands to help and heal*.
17. Terence and Dennis McKenna, *The Invisible Landscape*, p. 95.
18. Jan Smuts, *Holism and Evolution*, p. 176.
19. Shafica Karagulla, *Breakthrough to Creativity*, p. 78.
20. Meredith McGuire, *Ritual Healing in Suburban America*, p. 198.
21. Kendall Johnson, *The Living Aura: Radiation field photography and the Kirlian effect*, pp. 106–19.
22. Earle Lane, *Electrophotography*, p. 43.
23. HS Dakin, *High Voltage Photography*, pp. 26–33. Regarding the phenomenon of metal-bending, see the detailed and provocative study by UK experimental physicist John Hasted, *The Metal Benders*.
24. Rupert Sheldrake, *The Presence of the Past: Morphic resonance and the habits of nature*.
25. Thomas Kuhn, op. cit., p. 6.
26. Jean Gebser, *The Ever-Present Origin*, p. 542.
27. Jolande Jacobi, *Paracelsus: Selected writings*, pp. 63–4.

Chapter 8

1. Thomas Merton, *Conjectures of a Guilty Bystander*, p. 6.
2. Kenneth Pelletier, *Sound Mind, Sound Body: A new model for lifelong health*, p. 231.

3. Margaret Stacey, *The Sociology of Health and Healing*, p. 175.
4. Edmund Pellegrino, 'The Sociocultural Impact of Twentieth-Century Therapeutics', in Morris D Vogel and Charles E Rosenberg, *The Therapeutic Revolution*, p. 256.
5. Manfred Porkert, 'Chinese Medicine: A traditional healing science', in David Sobel, *Ways of Health: Holistic approaches to ancient and contemporary medicine*, p. 166.
6. Daniel Mowrey has documented many studies of traditional herbal medicines that have successfully passed through the hoops of formal scientific validation of efficacy. See his *The Scientific Validation of Herbal Medicine* and *Next Generation Herbal Medicine*.
7. Richard Smith, 'Foregone Conclusions: The public is being regularly deceived by the drug trials funded by pharmaceutical companies, loaded to generate the results they need', *The Guardian*, 14 January 2004.
8. Quoted by Carlo Calabrese, 'Clinical Research in Naturopathic Medicine', in George Lewith, Wayne Jonas and Harald Walach, *Clinical Research in Complementary Therapies: Principles, problems and solutions*, p. 358.
9. *British Herbal Pharmacopeia*; M Blumenthal, WR Busse, A Goldberg, et al (eds), *The Complete Commission E Monographs: Therapeutic guide to herbal medicines*.
10. A number of these assumptions are challenged by Harald Wallach, Wayne Jonas and George Lewith in their excellent review, 'The Role of Outcomes Research in Evaluating Complementary Medicine', *Alternative Therapies*, 2002, 8, 3, pp. 88–95. The article itself is reprinted from their anthology *Clinical Research in Complementary Therapies*, Churchill Livingstone, London 2001.
11. Meredith McGuire, *Ritual Healing in Suburban America*, p. 14.
12. *Ibid.*, p. 13.
13. *Ibid.*, p. 201.
14. Pelletier, *op. cit.*, p. 26.
15. *Ibid.*, p. 170.
16. Bruce Barrett and Lucille Marchand et al, 'What Complementary and Alternative Medicine Practitioners Say About Health and Health Care', *Ann. Fam. Med.*, 2004, vol. 2, pp. 253–9.
17. See Victoria Maizes, Craig Schneider, Iris Bell and Andrew Weil, 'Integrative Medical Education: Development and implementation of a comprehensive curriculum at the University of Arizona', *Academic Medicine*, 2002, vol. 77, 9, 851–60.
18. Iris Bell and Opher Caspi et al, 'Integrative Medicine and Systemic Outcomes Research: Issues in the emergence of a new model for primary health care', *Arch. Int. Med.*, 2002, vol. 162(2), pp. 133–40.
19. See Harold Wallach, Wayne Jonas and George Lewith, *op. cit.*
20. Thomas Kuhn, *The Structure of Scientific Revolutions*, p. 48.

21. Miriam Wetzel, Ted Kaptchuk, Aviad Haramati and David Eisenberg, 'Complementary and Alternative Medical Therapies: Implications for medical education', *Annals of Internal Medicine*, 2003, vol. 138, 3, pp. 191–6; Brian Berman, 'Complementary Medicine and Medical Education: Teaching complementary medicine offers a way of making teaching more holistic', *BMJ*, 2001, 322, pp. 121–2.
22. Ted Kaptchuk, 'The Placebo Effect in Alternative Medicine: Can the performance of a healing ritual have clinical significance?', *Annals of Internal Medicine*, 2002, vol. 136, pp. 817–25. *See also* the brilliant and humane reflections of medical homoeopath David Reilly's 'Some Reflections on Creating Therapeutic Consultations', in David Peters (ed) 2001, *Understanding the Placebo Effect in Complementary Medicine*, pp. 89–110.

Chapter 9

1. Rachel Naomi Remen, *Kitchen Table Wisdom*, p. 164.
2. Thomas Berry, *The Ecozoic Era*, p. 6.
3. K Alster, *The Holistic Health Movement*, pp. 172–3.
4. Paul Ghalioungui, *Magic and Medical Science in Ancient Egypt*, p. 153.
5. Vincent Di Stefano, 'Towards Regeneration', *Australian Journal of Medical Herbalism*, 1990, vol. 2, 3, pp. 55–8.
6. Steven Fulder, *The Handbook of Complementary Medicine*, p. 39.
7. Catherine Zollman and Andrew Vickers, 'ABC of Complementary Medicine: What is complementary medicine?', *BMJ*, 1999, vol. 319, pp. 693–6; 'Alternative Medicine' (theme issue), *JAMA*, 1998, vol. 280 (18), pp. 1549–640; 'Alternative Medicine' (section), *Med. J. Aust.*, 1998, vol. 169, pp. 573–86.
8. Bruce Wilcox, A Aguirre et al, 'EcoHealth: A transdisciplinary imperative for a sustainable future' (editorial), *EcoHealth*, 2004, vol. 1, pp. 3–5. *See also* Tony McMichael, 'The Biosphere, Health, and Sustainability' (editorial), *Science*, 2002, vol. 297, 16 August, p. 1093.
9. Thanks to the late Greg Ah Ket for alerting me to this story.
10. Thomas Berry, *op. cit.*, p. 3.
11. Union of Concerned Scientists, *World Scientists' Warning to Humanity*.
12. Thomas Berry, *The University: Its response to the ecological crisis*.
13. *See* EF Schumacher, *Small Is Beautiful: A study of economics as if people mattered*; Barbara Ward and Rene Dubos, *Only One Earth: The care and maintenance of a small planet*; Rosalie Bertell, *No Immediate Danger: Prognosis for a radioactive earth*.
14. K Alster, *op. cit.*, p. 44.

15. Mike Saks, *Orthodox and Alternative Medicine: Politics, professionalisation, and health care*, p. 108.
16. Rene Dubos, 'Hippocrates in Modern Dress', in David Sobel (ed), *Ways of Health: Holistic approaches to ancient and contemporary medicine*, pp. 205–20.

Index

- acupuncture
 - see* traditional Chinese medicine
- AIDS 45
- alchemy 28, 33, 108, 116-17
- alkaloids 6, 9, 33, 117
- Alster, Kristine 165
- alternative medicine xix-xx, 36, 53, 75,
76, 93, 131, 135, 149, 166
- Alzheimer's disease 45, 68
- American Medical Association 38-41
- anatomy 17, 37, 60, 62, 69, 113
 - in Arabic medicine 24
 - in early European medicine 26-7
 - in Egyptian medicine 7, 11-12,
16, 20
 - in Greek medicine 22-3
 - and osteopathy xxviii, 60
- antibiotics 44, 45, 66, 68, 84, 98,
112, 152
- Arabic medicine xxvi, 17, 20, 21, 22,
24-5, 35
- arationality 76-7
- Aristotle 14, 16-17, 20-1, 24
- arthritis 8, 108
- Asklepian medicine 12-13
- Asklepios 12, 18, 22, 35
- Astragalus spp.* xxvii, 66
- autonomy 52, 84, 102, 103, 146, 148
 - encouragement of in patients xxi,
98, 149
 - and holism xix
- Avicenna 4, 19, 24, 25, 29, 31
- Ayurvedic medicine xx, xxvii, 8, 35,
62, 108, 151, 159
- Balint, Michael 81, 84, 89, 93-4
- Barrett, Bruce 149-50
- Baum, Michael 53-4
- Beecher, Henry 48-9
- Bell, Iris 150-1
- Berliner, Howard 42
- Berry, Thomas, 156, 164, 167
- biomedicine
 - and complementary medicine xx,
xxvi, 4, 9, 16, 26, 53, 74, 108,
138-9, 144-5, 150, 166, 169
 - critiques of 47-52
 - cultural authority of xx, 45, 52, 76,
85, 114, 121, 124, 146

- future developments in 95, 110,
 133-4, 136, 156-7, 170-2
 and holism xxiv, 77
 and humanism 54, 69-70
 licensing 26
 limitations of ix, 45, 61, 67-8, 70,
 121, 124, 130, 139, 146, 148,
 157
 professionalism in 55, 73, 86
 and scientific method viii, 37, 61,
 64, 114-15, 122, 127, 136, 140
 short consultations in 91-3
 and specialities 49, 81, 160
 successes of 44-5, 53, 55, 77, 96,
 110, 117-18, 157, 171
 uniformity in xvi, 69, 92
 boiling frog principle 163
 Bologna School of Medicine 27
 British herbal pharmacopeia 142
 Brown, E.R. 40
 CAM
 see alternative medicine;
 complementary medicine
 cancer 8, 45, 53-4, 118
 Capra, Fritjof 74, 96, 102, 121, 122,
 123, 170
 Carlson, Rick 49-50, 52, 65, 73
 Carnegie Foundation 39, 41
 Cartesian dualism xxiv, 56, 74, 122
 Cassell, Eric 3, 79, 80, 82, 85, 89-90,
 94, 95
 Cassiodorus 35
 castor oil plant 9
 Celsus 21, 28-9
 chiropractic xvi, xvii, xx, 42, 71, 72,
 78, 146, 148, 149
 cholera 45, 46
 chronic disease 8, 45, 53, 84, 90,
 108-110, 111, 139, 146, 149, 154,
 157, 162
 colonic cleansing 8, 107, 149
 Commission E monographs 144
 complementary medicine
 acceptance of vii, xi, xvi, xx, xxi,
 xxiv, 49, 52, 56, 64, 70, 110,
 124-5, 139, 152-4, 166
 as catalyst for change in
 biomedicine 78, 155, 159-61,
 171-2
 and cultural authority 85, 140
 definitions of xix-xx, 138-9
 differences to biomedicine xxi-xxii,
 74, 86, 135-6, 141-2, 144-5,
 160-1, 171
 and ecology 165-166
 education in 38, 68, 70, 80, 124,
 135, 140, 150, 153, 172-3
 future development of 131-2
 hostility towards 26, 52-3, 74, 136
 humanism in 76, 135
 opportunism in 75-6
 professionalisation of 75-6
 professionalism in 75
 state support for 75, 171
 subordinate status of 138-9
 therapeutic freedoms in 64, 74-5,
 93, 145
 therapeutic goals of 65-6, 73, 74,
 98-101, 104, 106-8, 109-13
 usage vii
 validation of 139-40, 141-4,
 153-5
 consciousness xxii, 12, 20, 28, 70,
 110, 111, 116, 118, 120-1, 125,
 126-7, 134-5, 164, 165, 169
 Cornaro, Luigi 14
 Dakin, H.S. 133
 Descartes, René 63, 115-17, 121,
 125, 128, 137, 164
 determinism 122
 Diodorus 10
Dioscorea spp. 45
 Dioscorides, Pedanius 10, 17, 20-2,
 24, 25, 29

- diphtheria 46
 DNA xviii, 156
 Dobbs, Betty 116-17
 doctor-patient relationship xxii, 79-91,
 94, 144, 145, 171
 in complementary medicine xxi,
 83-7
 mutuality in 73, 84, 85, 86, 88, 90,
 98
 sensitivity in 89-91
 doctrine of the four elements 13-14,
 61, 117
 Domagk, Gerhard 35, 42-4
 Dossey, Larry 55, 118-19
 dualism 123, 128
 see also Cartesian dualism
 Dubos, Rene 46-8, 49, 59, 104, 168
 Ebola virus 46
Echinacea spp. xxvii, 66, 125, 142, 143
 education
 see also medical education;
 complementary medicine
 Ebers papyrus 4-7
 in Egyptian medicine viii, 4-11, 15,
 59, 79, 107, 136, 158, 171
 Smith papyrus 5-6
 social organisation of 10-11
 Ehrenreich, John 51, 52
 Ehrlich, Paul 33-5, 42, 43, 44
 empathy 84, 86-7, 91, 95, 169
 Empedocles viii, 13-14, 61
 energy xviii, 56, 78, 128-34, 155, 169
 and homoeopathy 100-1, 167
 perception of 101, 127, 131-2, 133-4
 spiritual 120, 127
 and traditional Chinese medicine
 xxix-xxx, 62, 71-2, 125
 environmental degradation 46, 106,
 162-5, 167, 170
 environment and health 45, 47, 51,
 56, 61, 64, 66, 68, 69, 73, 97, 104,
 107
 epidemics 11, 12, 14, 29, 45-6, 60, 109
 epidemiology 11, 36-7, 117
 Erasmus of Rotterdam 30
 ethics and medicine 48-9
 Farben, I.G. 43-4
 Ferrara School of Medicine 28-9
 Feuerstein, Georg 114
 Fleming, Alexander 9
 Flexner, Abraham 39-41
 Foss, Lawrence 122-3
 Friedson, Eliot 36
 Fulder, Steven 160
 Galen 4, 10, 14, 19, 22-4
 Gandhi xi, xviii
 Garrison, Fielding 19, 118
 Gawler, Ian 53-4
 Gebser 114, 119-21, 134-5
 German, G. Allen xv
 Gerson, Max 8, 59, 107
 Ghalioungui, Paul 158
Ginkgo spp. xxvii, 125, 142, 143, 154
 Graham, Helen 63, 73, 102
 Greek medicine xxvi, 5, 6, 11-17, 21,
 36, 49, 59, 79, 158-9
 Guba, Egon 123
 Hahnemann, Samuel xxv-xxvi
 Hare, Ronald 44
 Harvey, William 20, 23, 27
 healing process 55, 71, 81, 102,
 106-7, 111, 112, 121, 123, 144,
 145, 149, 155
 herbal medicine vii, xix, xxiv, xxvii-xxviii,
 17-18, 22, 37, 62, 64-5, 75, 78,
 108, 125, 138, 151, 169
 scepticism towards 9
 testing of 142-4
 Herodotus 5, 7, 10, 107, 158
 Hildegaard of Bingen 35
 Hippocrates of Cos viii, 5, 15-16, 23,
 24, 28, 31
 Hippocratic medicine 12, 16, 19,
 25-6, 35, 46, 56, 104

- holism
 and biomedicine xxiii-xxiv, 46, 55, 77, 121, 150, 156, 168-9, 173
 and complementary medicine xvi, xvii, xxii, 55, 64, 65-6, 68, 71-3, 88, 125, 144, 149, 160, 165
 and doctor-patient relationship 82, 85, 87, 91-2, 93, 95, 98
 and ecology 157
 in Greek medicine 11-12, 65, 170
 and healing 70, 71, 72-3, 102
 in herbal medicine xxviii, 64-5, 142-3
 hostility towards 53, 157
 and Paracelsus 32, 56
 philosophy of xvii-xix, 66, 67, 73, 74, 97, 102, 103-4, 115, 163, 171
- Homer 5
- homoeopathy xxv-xxvii, 60, 64, 72-3, 100, 101, 146, 148, 149, 166
- Hooke, Robert 32
- hospitals 5, 12, 16, 35, 37, 109, 137, 159
 and medical education xvii, 37, 42, 69, 70, 80-2, 90, 117
- humoral medicine xxvii, 14-15, 23, 32, 117
- hygienism xvii, xxiv, xxv, 8, 18, 107-8
Hypericum xxvii, 143
- Illich, Ivan 49, 50, 52, 73, 105
- immunisation 44
- innate healing 78, 107, 125
see also self-healing
- integrated medicine xx, III
- integrative medicine xx, 70, 124
- interdependence xix, 74, 157, 163, 166, 171
- intuition xxiv, 91, 121-2, 131
- Isis 5, 18
- Jensen, Bernard 8, 107
- Jesus of Nazareth 35, 106
- Johns Hopkins School of Medicine 38-42
- Johnson, Kendall 133
- Jung, Carl 83, 120
- Kakar, Sudhir 76
- Karagulla, Shafica 130-1
- Kirlian photography 132-3
- Kleinman, Arthur xvi
- Kornberg, Arthur 125
- Krieger, Dolores 78, 127, 130
- Kuhn, Thomas 69, 123, 124, 134, 136, 151-2
- Kunz, Dora 127, 130
- Laing, R.D. 83
- Lane, Earl 133
- Leonicensi, Nicolo 28-9
- life force 33, 128-30
see also vitalism
- lifestyle xxv, 50-1, 64, 71, 88-9, 92, 94, 96-8, 103-5, 135, 145, 162, 163
- materiality xxiv, xxvi, 115, 117, 121, 126, 155
- Matheson, Carl 123
- May, Rollo 91
- McGuire, Meredith 112, 132, 146-7, 148, 149
- McKenna, Terence 127
- McKeown, Thomas 61, 96
- McWhinney, Ian 87
- medical education xvii, 61, 80, 117-18, 121-2, 140
 early European 25-8, 37
 early modern xvii, 38-42
 limitations in 68, 70, 85
 reform of 54
 Renaissance 31, 37
 uniformity in 48
 state support for 11, 26, 41
- meditation 32, 53, 56, 127, 133, 148, 169
- Merton, Thomas 137

- mind 47, 62, 66, 127, 132, 134, 136, 144, 172
 and Descartes 115-16, 117, 122
 and holism xviii, xix, 32, 48, 110, 115, 171
 and matter xxiv, 56, 125-6
 and medicine 45, 55, 56, 59, 94, 104, 112, 113, 123, 124-6, 148, 159, 166
 modernity xxiv, 35, 53, 115
 Mondino de Luzzi 27
 Moss, Donald 99
 multifactorial aetiology 66-7, 88-9, 97, 142, 150-1
 National Institute of Health 143
 naturopathy vii, xvi, xix, xx, xxii, xxiv-xxv, 64, 75, 107-8, 146, 149, 166
 Newton, Isaac 34, 115-17, 121
 osteopathy xix, xx, xxii, xxviii-xxix, 42, 60, 65, 78, 86, 125
 Padua School of Medicine 27
Panax ginseng 133, 142, 159
Papaver somniferum 9, 33
 Pappworth, Maurice 48-9
 Paracelsus viii, 14, 19, 23, 24, 28-32, 56, 98, 107, 134-5
 paradigms 20, 70, 117, 122-4, 146
 biomedical xxvi, 50-1, 66-7, 76, 99, 101, 123, 126, 154
 complementary medicine 122, 130, 132-3, 159, 172
 definitions 123-4
 humoral 14, 32
 new 56, 95, 124
 transitional 69, 124, 150
 Pellegrino, Edmund 54, 81, 141
 Pelletier, Kenneth 55, 109, 137, 147-8, 149
 penicillin 9, 44, 46
 pharmaceutical industry 42-5, 144, 161
 pharmacology xxvi, 9, 17, 37, 95, 100
 Arabic 24-5
 early Greek 22
 Renaissance 29, 32, 33-4
 philosophy viii, xviii, 13, 14, 16, 22, 23, 24, 60, 61, 92, 137, 164
 biomedical 67, 136
 complementary medicine viii, 67
 holistic xix, xxviii, 73, 74, 113
 and medicine viii, xxii-xxiii, 70
 naturopathic xxv, 107-8
 reductionist 45, 76
 placebo effect 94, 98, 123, 141, 154
 polypharmacy 68
 Porkert, Manfred 141
 pragmatism xxi, xxiii, 92, 110, 160
 prayer xv, 13, 47, 55, 119, 170
 preventive medicine 68, 97, 158
 Pritchett, Henry 39, 41
 Prontosil 43-4
 psychology 23, 70, 71, 83, 120, 126, 151
 and medicine 61, 68, 69, 76, 80, 93-4, 99-100, 123, 161
 psychoneuroimmunology 56, 66
 random screening 35, 44
 randomised controlled trials 140-4, 151
 rasayana 8, 108, 159
 rationality xxx, 18, 54, 77, 115, 118, 120-1, 126, 141, 155
 in early Greek medicine 11, 12, 15-16, 20-1
 and modernity xxiv, 120
 reductionism xvii, xix, 63, 76, 122
 in biomedicine 45, 47, 52, 55, 64, 77, 97, 141
 in complementary medicine xxiii, 75-6, 77, 144
 regenerative medicine 8, 107-10, 113, 159
 Remen, Rachel Naomi 70, 156
 Renaud, Marc 66

- research xxiv, 33, 37, 59, 94, 109,
123, 126, 133, 136, 154, 156
and biomedicine xvii, 41-3, 48-9,
140-4, 150-1
and complementary medicine 139,
140, 142-3, 145, 152
cost of 143
qualitative vii, xii, 144-5, 147-50, 151
- Rhazes 25
- Riddle, John 21
- Rockefeller Foundation 39-42
- Rosetta Stone 5
- Saks, Mike 36, 53, 165-6
- Salerno School of Medicine 25-6
- Salvarsan 34, 43
- Schumacher, E.F. 126
- scientific method 46, 61, 64, 114,
117, 125, 127, 137, 140, 157
- self-healing xxv, xxviii, xxix, 16, 18,
47, 100, 102, 107, 125
see also innate healing
- Semmelweis, Ignaz 16
- sensitivity xxiii, 89, 90, 121, 135,
136, 140, 169
analytical 15
ecological 157
empathic 91
holistic 65, 70, 120, 171
- Serenoa spp.* 142
- shamanism 7, 29-30, 35, 47, 52, 56,
73-4, 102-3, 118-19, 127, 170
- Sheldrake, Rupert 132-3
- siddha medicine 35
- Siegal, Bernie 55
- Sisal spp.* 45
- Smith, Richard 143
- Smuts, Jan Christian xvii-xviii, 128,
129, 170
- Sobel, David 3
- socio-economic factors in health and
disease 36-7, 45-7, 50, 51, 61, 62,
105
- specific aetiology 66, 67-8
doctrine of 34, 42, 46, 55
- spirit xxiv, 7, 30, 36, 45, 48, 65, 66,
72, 115, 120, 128, 130, 134-5,
136
and healing 32, 35, 36, 37, 103,
106, 113, 127, 144, 169
- spirituality xxv, 8, 29, 62, 69, 71, 77,
83, 116, 117-18, 126, 133, 148,
151, 166, 171, 172
- spiritus vitae* 33, 107
- Stacey, Margaret 138-9
- Starr, Paul 39-40, 41
- Stein, Howard 86
- Still, Andrew Taylor xix, xxv, xxviii, 65
- suffering xi, xv, xxiii, 50, 76, 82, 95,
112, 136, 156, 169, 170
- Sulphanilamide 35, 43-4
- syphilis 29, 34, 42
- Szasz, Thomas, 83-5, 87
and models of doctor-patient
relationship 83-4
- Taoism xxx, 71, 72, 78, 168
- Taylor, Richard 49, 50-1, 52, 97,
108-9
- Taylor, Rosemary 79
- technology xxiv, 20, 32, 45, 133,
163-4, 166, 168
and medicine xxii, 44, 50, 77, 161,
167, 172
- Theophrastus of Eresus 16-17, 21, 25
- therapeutic touch 78, 127
- traditional Chinese medicine xix, xx,
xxix-xxx, 35, 60, 62, 64, 100-1,
141-2, 149, 151, 159
and acupuncture 71-2, 125, 155
- trophorestoration 107-8
- Trotula of Ruggiero 26
- Unani medicine
see Arabic medicine
- uncertainty xxiii, 52, 54, 87, 90, 154,
155, 157, 170

Union of Concerned Scientists 164
Vesalius, Andreas 20, 24, 27, 60
vitalism 128
 and homoeopathy xxv-xxvi, 100
 and naturopathy xxv, 107-8
 see also life force

Von Leeuwenhoek, Anton 32
yoga 8, 71, 72, 108, 146, 149, 159
zen 87, 133